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# What Camera?

**DLSRs**

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# Welcome

**Matt Tuffin**
**Editor**

## What Camera?

Welcome to *What Camera?*, your best location for all the advice and information you need when buying a new camera. We've reviewed 100 different cameras, giving you a huge spread of styles, price ranges and designs.

We've got verdicts for every camera from the latest Nikon full frame DSLR through to the Olympus PEN series of Compact System Cameras and Canon Ixus series of compacts. Whether you're an absolute beginner or a more seasoned amateur, there's a camera for you.

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*What Camera?* is a compendium of reviews of current cameras from the experts at *What Digital Camera*, the world's oldest digital photography magazine and the UK's best selling monthly guide to cameras and accessories. Every one of our reviews is based upon extensive testing in laboratory conditions as well as in the field, under a wide range of shooting conditions. Our reviewers have over 70 years of combined experience of testing cameras, and our results are compared against previous and current models, ensuring the final result is an accurate reflection of that product's overall performance.

Inside this issue of *What Camera?* you'll also find *What Lens?* which applies the same rigorous testing approach to over 70 lenses in every available mount.

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COMPACT SYSTEM CAMERAS
COMPACT CAMERAS

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Full HD movies
continuous shooting
Built-in wireless flash control

| | | |
|---|---|---|
| 600D 18-55 IS Kit | £599.00 | £24.95 P/m |
| 600D 18-135 IS Kit | £769.00 | £32.04 P/m |
| 18-55 + 55-250 Twin Kit | £809.00 | £33.70 P/m |

### EOS 60D

18 MP sensor
Full HD movies
Advanced Creative Features

| | | |
|---|---|---|
| 60D Body | £829.00 | £34.54 P/m |
| 60D 18-55 IS Kit | £899.00 | £37.45 P/m |
| 18-55 + 55-250 Twin Kit | £1129.00 | £47.04 P/m |
| 60D 18-135 IS Kit | £1019.00 | £42.45 P/m |
| 60D 17-55 IS Kit | £1599.00 | £66.62 P/m |
| 60D 17-85 IS Kit | £1099.00 | £45.79 P/m |

### EOS 7D

18 MP sensor
Full HD movies
8 fps Shooting
100% viewfinder
Integrated Speedlite transmitter

| | | |
|---|---|---|
| 7D Body | £1099.00 | £45.79 P/m |
| 7D 18-135 IS Kit | £1449.00 | £60.37 P/m |
| 7D 15-85 IS USM Kit | £1699.00 | £70.79 P/m |

### EOS 5D MK II

21.1 MP sensor
Digic4 Processor
Full HD Video
100% viewfinder
Integrated

| | | |
|---|---|---|
| 5D MK II Body | £1669.00 | £69.54 P/m |
| 5D MK II + 24-105 Lens | £2269.00 | £94.54 P/m |

### EOS 5D MK III

22.3 MP sensor
61 Point AF
6 fps shooting
Full HD Video
Weather sealing
14 Bit DIGIC5+ processor
HDR Mode

| | | |
|---|---|---|
| 5D MK III Body | £2999.00 | £124.95 P/m |
| MK III + 24-105 Lens | £3689.00 | £153.70 P/m |

### EOS 1D MK IV

16.1 MP CMOS sensor
10 fps shooting
45 point AF system
Full HD Video
Dual DIGIC 4
Integrated cleaning mode

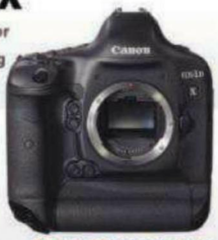
| | | |
|---|---|---|
| 1D Mark IV Body | £3499.00 | £145.79 P/m |

### EOS 1DS MK III

21 MP CMOS sensor
5 fps shooting
High Precision AF
Full HD Video
Dual DIGIC III
Integrated cleaning mode

| | | |
|---|---|---|
| 1DS Mark III Body | £5399.00 | £224.95 P/m |

### EOS 1DX



18.1 MP CMOS sensor
up to 14 fps shooting
61 point AF system
Full HD Video
Dual DIGIC 5
Ethernet port

| | | |
|---|---|---|
| EOS 1DX Body | £5299.00 | £220.79 P/m |

## Canon Zoom Lenses

Canon Zoom Lenses offer superb versatility to your EOS system.

| | | |
|---|---|---|
| EF 8-15mm f4L USM Lens | £1149.00 | £47.87 P/m |
| EF-S 10-22mm f3.5-4.5 USM Lens | £639.00 | £26.62 P/m |
| EF 16-35mm f2.8 II L USM Lens | £1149.00 | £47.87 P/m |
| EF 17-40mm f4.0L USM Lens | £619.00 | £23.26 P/m |
| EF-S 17-85mm f4-5.6 IS USM Lens | £349.00 | £22.10 P/m |
| EF-S 18-200mm f3.5-5.6 IS Lens | £399.00 | £23.27 P/m |
| EF 24-105mm f4L IS USM Lens | £899.00 | £37.45 P/m |
| EF 24-70mm f2.8L II USM Lens | £2299.00 | £95.79 P/m |
| EF 28-135mm f3.5-5.6 USM IS Lens | £379.00 | £22.10 P/m |
| EF 28-300mm f3.5-5.6L IS USM Lens | £2189.00 | £91.20 P/m |
| EF 70-300mm f/4.0-5.6 IS USM | £419.00 | £20.95 P/m |
| EF 70-300mm f/4.5-5.6L IS USM | £1159.00 | £48.29 P/m |
| EF 70-200mm f/4.0 L USM | £529.00 | £22.04 P/m |
| EF 70-200mm f/4.0 L IS USM | £929.00 | £38.70 P/m |
| EF 70-200mm f/2.8L USM | £979.00 | £40.79 P/m |
| EF 70-200mm f/2.8 L IS USM | £1869.00 | £77.87 P/m |
| EF 100-400mm f4.5-5.6L USM IS | £1249.00 | £52.04 P/m |

## Canon Fixed Focal Length Lenses

When absolute quality is paramount choose a Canon prime lens.

| | | |
|---|---|---|
| EF 400mm f5.6L USM Lens | £1089.00 | £45.37 P/m |
| EF 300mm f4.0L USM IS Lens | £1149.00 | £47.87 P/m |
| EF 200mm f2.0L IS USM Lens | £4939.00 | £205.79 P/m |
| EF 200mm f2.8L II USM Lens | £599.00 | £24.95 P/m |
| EF 85mm f1.2L II USM Lens | £1729.00 | £72.04 P/m |
| EF 50mm f1.2L USM Lens | £1269.00 | £52.87 P/m |
| EF 35mm f1.4L USM Lens | £1159.00 | £48.29 P/m |
| EF 24mm f1.4L II USM Lens | £1329.00 | £55.37 P/m |
| EF 24mm f2.8 Lens | £369.00 | £21.52 P/m |
| EF 20mm f2.8 USM Lens | £404.00 | £23.56 P/m |
| EF 14mm f2.8L II USM Lens | £1859.00 | £77.45 P/m |

## Canon Macro Lenses

Get super close to your subject

| | | |
|---|---|---|
| EF-S 60mm f2.8 Macro USM Lens | £349.00 | £23.26 P/m |
| EF 100mm f2.8 USM Macro Lens | £429.00 | £21.45 P/m |
| EF-100mm f2.8L Macro IS USM Lens | £699.00 | £29.12 P/m |
| EF 180mm f/3.5 L USM with Lens Hood | £1259.00 | £52.45 P/m |

## Canon Tilt & Shift Lenses

Expand photographic possibilities

| | | |
|---|---|---|
| TS-E 17mm f/4.0 L with Lens Case | £1949.00 | £81.20 P/m |
| TS-E 24mm f/3.5 L II with Lens Hood | £1699.00 | £70.79 P/m |
| TS-E 45mm f/2.8 Lens | £1118.00 | £46.58 P/m |
| TS-E 90mm f/2.8 Lens | £1118.00 | £46.58 P/m |

## Canon Extenders

multiply focal length

Extender EF 2x III
£419.00 £20.95 P/m

Extender EF 1.4x III
£419.00 £20.95 P/m

## Canon Speedlite Flash

Speedlite 580EX II Flashgun
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Macro Ring Lite MR-14EX
£459.00 £22.95 P/m

Macro Ring Lite MT-24EX
£769.00 £32.04 P/m

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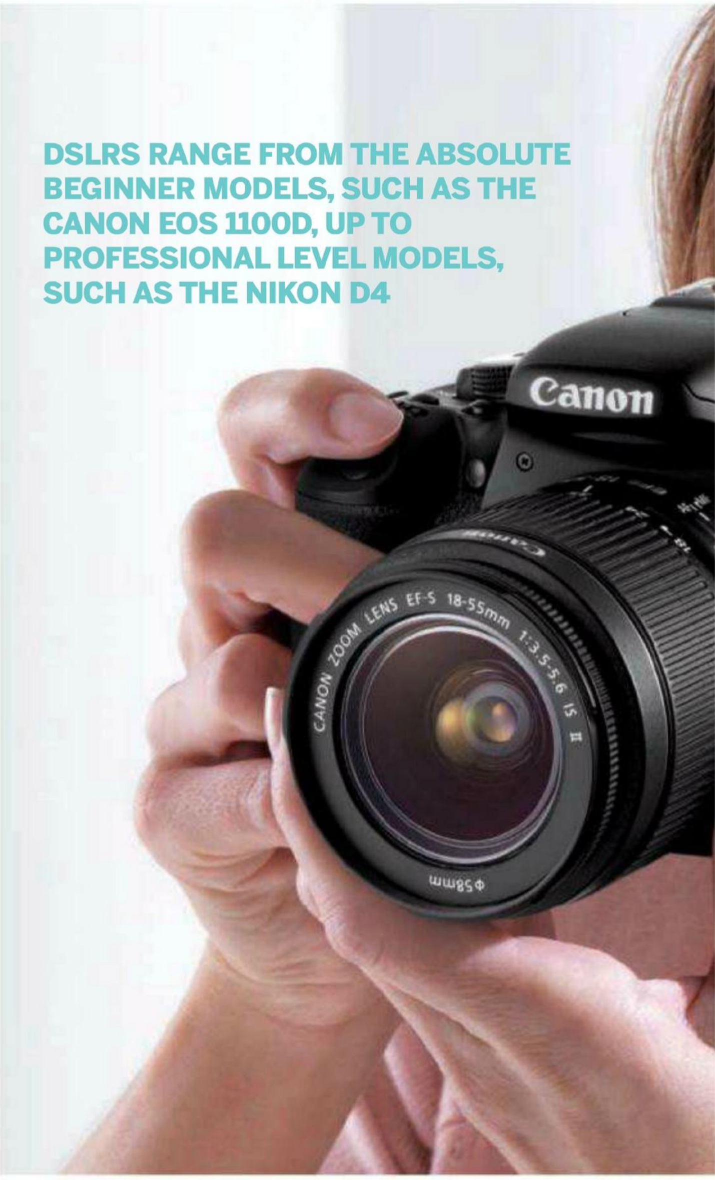
# Compact, DSLR or CSC?

## Which type of camera is best for you, and why? Read our guide to find out whether to invest in a fixed or removable-lens camera



DSLRS RANGE FROM THE ABSOLUTE BEGINNER MODELS, SUCH AS THE CANON EOS 1100D, UP TO PROFESSIONAL LEVEL MODELS, SUCH AS THE NIKON D4

All digital cameras are based around the same theory; use a light-sensitive sensor to capture light, then save the results onto a memory card. Beyond that the functionality can change quite drastically from model to model, from touchscreen controls to high-definition video and wideangle lenses.

Digital cameras fit into three distinct categories: Compact System Camera, Digital SLR and Compact Camera. There are further sub-genres within that, but all three have obvious characteristics to set them apart.

Compact cameras have a fixed lens, which means the optics can't be removed and exchanged. This means the lens on a compact camera becomes a feature in itself, offering a longer zoom, brighter optics or a wide lens. The likes of manual controls, the ability to record HD video and a large LCD screen are a few of the features added when more money is spent.

Within the compact camera genre are the likes of bridge models, which offer a far longer zoom and body shape capable of allowing the user to full utilise that magnification. There are models able to provide users with a similar level of control to that of a DSLR, only without the removable-lens aspect.

Compact System Cameras are somewhere between compacts and DSLRs, offering a pocketable size with removable lenses. Without the mirror and prism present in a DSLR, CSC models can be far smaller, but are unable to support a through-the-lens optical viewfinder. Instead an LCD screen, electronic viewfinder or separate optical viewfinder is used for the main display devices.

The lenses which can be used are dependent on the system, which differs from manufacturer to manufacturer. Panasonic and Olympus share the Micro Four Thirds system, where Sony, Samsung, Pentax and Nikon all offer separate options,

▼

**DLSR**

**IDEAL FOR** expanding your understanding of photography, thanks to the versatility of both the removable lenses and manual controls.

**Canon EOS 600D**
**88%**
**Page 30**

## COMPACT SYSTEM CAMERA

**IDEAL FOR having the physical dimensions of a large compact camera while offering the removable lenses and manual control of a DSLR.**

## COMPACT CAMERA

**IDEAL FOR**
**A whole variety of uses, from shooting portraits, landscapes and action, with a camera that'll fit into your pocket.**

# Jargon Buster

### Sensor types and sizes

A sensor forms the heart of a digital camera, capturing light and converting it into a digital signal. There are a number of different physical sizes, from compact up to full frame (seen in professional DSLRs), which affect the end image quality significantly. If a sensor is larger, it can capture more light and therefore produce a better quality image, where as a compact sensor can fit into a smaller body but can capture less light. We may refer to CCD and CMOS throughout the reviews as well, which are different methods of producing the same end result, but the sensor size is the significant element to take notice of.

### DSLR

DSLR stands for Digital Single Lens Reflex. The SLR portion has been around for more than 50 years, as it refers to light being passed through a single lens and reflecting off of a mirror into a prism, allowing the user to look directly through the lens when framing a shot.

### Through-the-lens optical viewfinder

This is the unique element of a DSLR, which differentiates it from a compact or CSC. Looking through the lens allows you to see somewhere close to what the camera will capture. The alternatives are an EVF, or electronic viewfinder, which is a smaller version of a rear screen which can also be used for framing images.

### Compct System Camera

The group name for a camera without a mirror (see above) but offering removable lenses. This includes the Olympus PEN range and Sony's NEX cameras, as well as models from Panasonic, Nikon, Samsung and Pentax. CSC models are smaller and lighter than DSLRs, due to the lack of a mirror assembly, but also lack an optical through-the-lens viewfinder.

### EVF

The electronic version of an optical viewfinder is, essentially, a far smaller version of the screen at the rear of the camera. This means all the display information, as well as image playback, can be viewed through the Electronic Viewfinder.

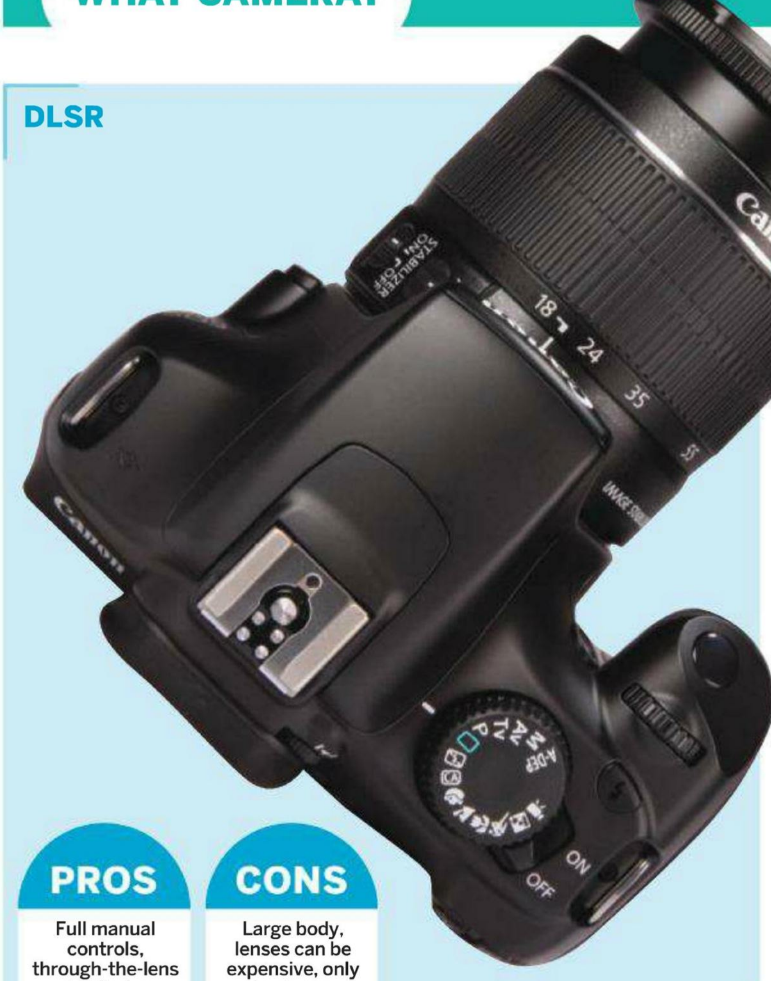
### Rear screen

Until recently LCD (Liquid Crystal Display) screens were the only type of display used on a digital camera. Now OLED (Organic Light-Emitting Diode) is becoming more commonplace, offering better power consumption and therefore longer battery life for the camera. The rear screen can be used to display the menu, review images or operate the Live View mode.

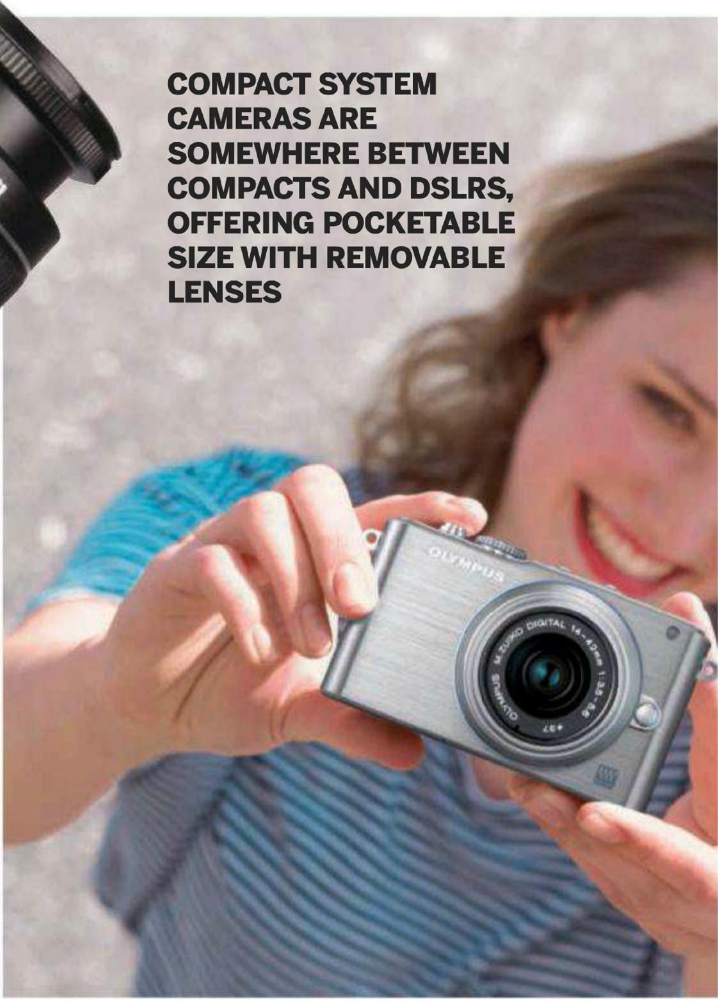
### Live View

This display mode shows a preview of the image for framing purposes. All compacts use this as a default, with only a few models offering a viewfinder as an alternative. DSLRs and CSCs also offer this functionality.

## DLSR



| PROS | CONS |
|---|---|
| Full manual controls, through-the-lens viewfinder, removable lenses | Large body, lenses can be expensive, only short zoom included with camera |



**COMPACT SYSTEM CAMERAS ARE SOMEWHERE BETWEEN COMPACTS AND DSLRS, OFFERING POCKETABLE SIZE WITH REMOVABLE LENSES**

with each having a relatively decent portfolio of lenses already.

Due to the lack of established form factor, unlike DSLRs, Compact System Cameras come in a wide variety of shapes and sizes. The majority of the differences are purely aesthetic, but a fair few affect the handling quite significantly as well. The likes of the Sony NEX range, for example, have a thin, wide body which makes it necessary to hold the camera more by the lens than the body. The Panasonic GH2, for example, is shaped like a DSLR and can therefore be held in a similar manner.

DSLRs range from the absolute beginner models, such as the Canon EOS 1100D, up to professional level models, such as the Nikon D4. The body shape is extremely similar throughout, with a large right hand grip area and dials on the top of the body. The buttons on the rear resemble a compact or Compact System Camera, with a navigation pad and the likes of a delete and playback button.

The addition of a through-the-lens optical viewfinder is one of the main unique features that differentiates a DSLR from both a Compact System Camera and compact camera. This is due to the mirror and prism that isn't present in the CSC models, which also means a DSLR is far larger.

The only model which bucks this trend, and as a result can quite be described as a true DSLR, is the Sony SLT range. A translucent mirror is used meaning no movement is required for light to travel to the sensor. As a result the burst rate is far faster, making the likes of the Sony A57 capable of shooting up to 12fps. The disadvantage, depending on your preference, is the presence of an electronic, rather than optical, viewfinder.

There are two different kinds of sensor used in DSLRs: APS-C and Full Frame. Full Frame is described as such because it's the same size as a 35mm negative. The end result is improved tonal range and sharpness due to a larger surface area to capture the light. The megapixels may not seem any higher than that of an APS-C type sensor, which is around 1.6x smaller, but due to more light being captured the image quality is visibly better.

Because lenses are built for 35mm systems, and therefore the focal lengths of those systems, APS-C DSLRs extend the lens range to some degree. This works in a similar manner

## COMPACT SYSTEM CAMERA

| PROS | CONS |
|---|---|
| Pocketable, full manual controls, removable lenses, HD video recording | No through-the-lens viewfinder, not many lenses for each system in comparison to DSLR |

**Olympus E-P3**
**88%**
**Page 52**

## COMPACT CAMERA

**PROS**

Small, pocketable and no need for too many accesories, simple to use

**CONS**

No removable lenses or through-the-lens optical viewfinder

to a teleconverter, hugely benefiting long zoom or telephoto lenses but forcing wideangle options to be far more extreme.

Most DSLRs offer both HD video recording and Live View, and benefit from a far longer legacy in terms of lenses giving a larger portfolio. This means that Canon, Nikon, Pentax and (via Minolta which used the same mount) Sony are privy to a wider choice of optics compared to Compact System Cameras.

In each individual section we'll be looking at the types of camera in more depth, as well as explaining the features to look out for and different idiosyncrasies of each manufacturer.

## Jargon Buster

### Bridge camera

A fixed lens camera with a long zoom, and normally a fair few manual controls, is known as a bridge camera. This is due to it forming the 'bridge' between a compact and DSLR by sitting somewhere in the middle. Although the lens is fixed, you're rarely left wanting because the focal length is so impressive.

### Tough camera

Unsurprisingly this refers to a model capable of withstanding a drop, being submerged underwater or frozen. These cameras are perfect for those into extreme sports, or who are just a touch clumsy.

### Shutter speed

The period of time that the physical shutter blade on a DSLR moves out of the way in order for the sensor to capture light. This is simulated on a CSC or compact by only allowing the sensor to gather light for that period. The faster the shutter speed, the more likely you are to capture a fast-moving subject without blur. The longer the shutter speed then lower light environments will appear better exposed. Both fast and slow shutter speeds have implications on the depth of field, which is how much of the frame is in focus, as a rapid shutter speed limits the amount of an image that can be sharp. A longer shutter speed, on the other hand, assists the camera in getting more of the photo in focus, but may result in motion blur or over exposure.

### ISO range

Named for the International Organization for Standarization, ISO refers to a simulated film speed. This is used to denote an increase or decrease in the sensitivity to light, in the case of digital cameras of the sensor rather than film. An ISO speed such as 100 will be perfect for bright, outdoor situations with little contrast between dark and light. Going up to ISO 1600 will make the sensor more sensitive, allowing it to pick up more light from the frame, but often resulting in 'noise' which is the appearance of red and green specks where pixels don't have enough light to absorb.

### Aperture

How much light the camera allows onto the sensor can be controlled before the shutter is depressed by using aperture. This is the act of widening or narrowing a series of blades in a lens to make a hole in the centre larger or smaller. Used in conjunction with a complementary shutter speed this can increase depth of field, or reduce it. A wide aperture, such as f/2.8, will absorb a large amount of light allowing for a faster shutter speed, where as f/22 will be better used with a longer shutter speed.

### Focal length

The focal length of the lens, which is displayed in terms of the widest followed by the narrowest (28-112mm for example). This gives you an idea of how many times you can magnify an image before the lens reaches its optimum length.

# A Starter's Guide to DSLRs

## What makes a Digital Single Lens Reflex Camera different from a compact camera or CSC? Find out here

IT'S NOT JUST A REMOVABLE LENS THAT DIFFERENTIATES A DSLR FROM A COMPACT CAMERA

The number of manufacturers currently involved in DSLRs is reasonably limited, with only Canon, Nikon, Pentax and Sony remaining. This makes the choice far easier, especially since which manufacturer chosen will make a significant difference to the number of lenses on offer, and how to advance.

This is due to each manufacturer using a specific type of mount, meaning Canon and Nikon lenses can't be swapped between bodies. There are a number of third-party lens manufacturers, such as Sigma and Tamron, who offer cheaper options which aren't always inferior to the own-brand versions.

There are several elements to consider when purchasing a DSLR, other than the lenses. The first is your experience level. At under £600 there are a fair few options for the newcomer to introduce themselves to DSLR photography, which still offer the same manual controls but often reduce the feature set. This means the likes of the burst mode or number of megapixels are lower than the models above.

Spend a few hundred pounds more, into the realms of the Canon EOS 600D and Nikon D5100, and you'll see the build quality improve as well as a few more features appear. The likes of metering and focus zones can be improved and increased as well as the burst rate and number of megapixels. Vari-angle screens, which are incredibly useful for low and high angle shooting, also begin appearing.

Up into the £800 range, where the Pentax K-5, Nikon D7000 and Canon EOS 7D sit, you'll get the top feature set possible from an APS-C model. The burst mode increases, as can the ISO range with the bodies becoming weather-sealed to prevent liquid getting into the electronics.

Head into the £1,800 plus range and the more 'portable' full frame DSLRs are available. Although the bodies aren't exactly small, compared to the models above the likes of the EOS 5D Mark III is a touch more comfortable to carry around in a camera bag.

At this stage full-frame cameras will split in the intended focus, being either sports or studio shooting. A DSLR more intended towards action will offer a higher burst rate and ISO range, whereas a model geared towards studio work will offer a higher-resolution sensor.

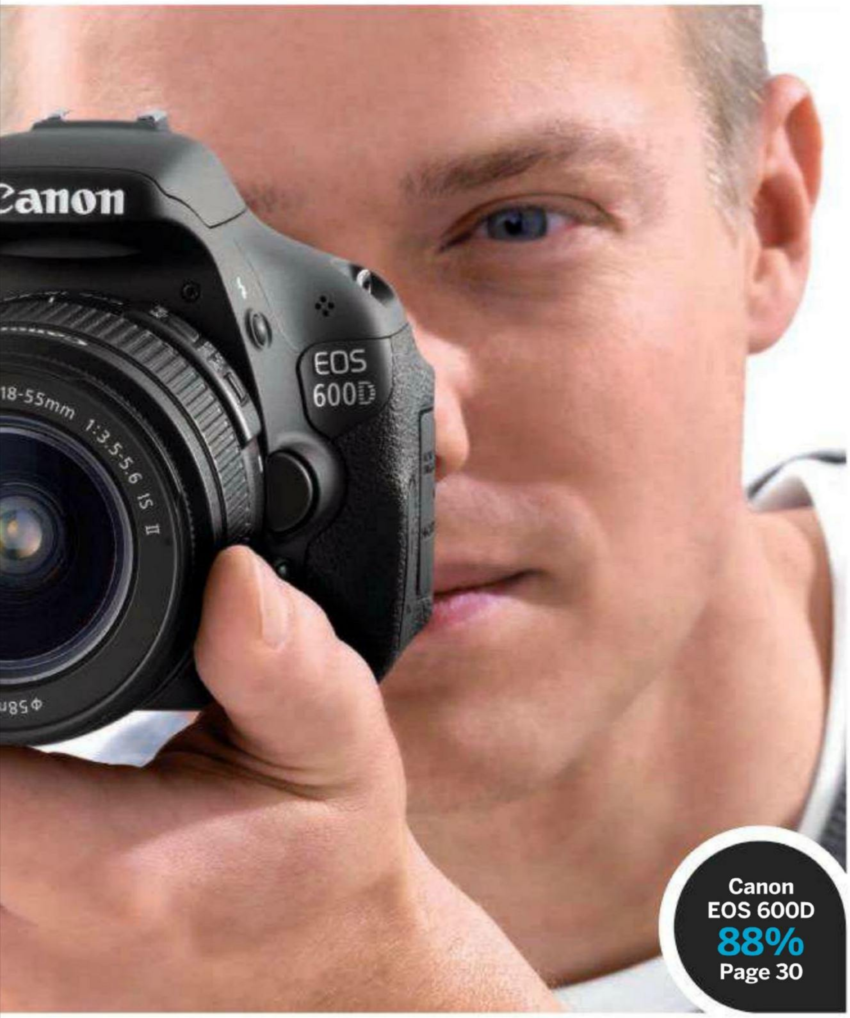
At the top level, which can go to £6,000 and beyond, the divide in intended usage is made even clearer. Nikon's s range, such as the D3s, is aimed towards sports photographers whereas the x range is more for studio shooters. Similarly Canon's Ds models are made for sports and the D models for indoor work. The bodies are larger and more robust, with secondary controls so that the camera can be used in portrait orientation.

Cameras below the full frame variety will come packaged with a standard kit lens, which will offer a focal length of around 18-55mm. Although you'll probably replace this lens within a few months it's a handy extra when you first start out.

The likes of a bag, memory card and filter are important extras and, outside of a kit offer, will need to be bought soon after the camera. A UV filter for the front of the lens is a necessity, as any front end impacts won't result in broken optics.

Expanding and extending the variety of lenses comes down to personal preference, with wideangle, macro and telephoto options available. For more information on lenses check the lens section in the centre of the magazine.

**Lens**
**There are hundreds of different lenses available for each system, aimed at action, nature, landscape and macro shooting.**



**LCD Screen**
For those looking to frame or review an image, the rear LCD screen on a DSLR can be used for either as well as navigating the menu.

**Manual Controls**
Aperture, shutter speed and focus can all be altered on a DSLR, giving you maximum control of your images.

**Viewfinder**
The main advantage of a Digital SLR over a CSC or compact is the optical through-the-lens viewfinder.

## DLSR Checklist

### 1 Pick your system
Each manufacturer has a different lens system, as well as differing operational quirks and available accessories. Canon and Nikon are the most popular, and have the largest number of lenses available, but both Sony and Pentax produce some superb models throughout the price ranges. Be sure to chose a model which suits your needs.

### 2 Choose your price range
You can buy a DSLR for less than £400, but don't expect a rapid burst rate or high-resolution sensor. Above this price range more features are added, and the usage of the DSLR becomes more focused towards rapid motion (action) or high amounts of detail (portraiture, landscape).

### Prioritise your features
### 3
Are you a complete beginner? Then a decent guide mode will be helpful. An aspiring sports shooter? Aim for a higher burst rate. How about landscapes? More detail is needed in the images. Check the feature list to see what suits your needs, as manufacturers can differ wildly at the same price range.

### 4 Give it a try
Don't rely entirely on our expert advice; try handling the camera before you shell out the cash. You'd be surprised by how much difference a dial or button being a few millimetres in a different direction can make to handling, and the feel of a magnesium body compared to a plastic one.

### 5 Lens selection
DSLRs either come 'body only', which means without a lens, or with a lens included. A standard kit lens is a short zoom, usually around 18-55mm. Extra lenses can be included within kits, so look out for deals on longer zooms or wideangle options.

### 6 Invest in a memory card
Annoyingly DSLRs don't come with memory cards, so one is required when you buy a camera. Around the 4GB mark should be considered a minimum.

### 7 Buy a filter
Be sure to grab a UV filter for your lens, as it'll protect the front optics.

### 8 Get a bag
With delicate optics and the potential for dust infiltrating, a decent bag is imperative.

### 9 Extra battery?
If you're heading out for an extended period of time, a spare battery can be a godsend.

### 10 Shop around
Don't be turned off by older models, as regardless of the new sensor or spinning screen an up-to-date model might include, it's the image quality that counts.

# Nikon D4

## Is this the best DSLR ever seen? We put Nikon's flagship D4 DSLR to the test to find out...

**PROS**

Performance is hard to fault, build quality is excellent, and there's pretty much every feature you could ask for

**CONS**

The price point means it's out of reach for most of us

The D4 features a new 91,000-pixel metering system linked into Nikon's Advanced Scene Recognition system

When the D3 arrived back in 2007, it heralded a new dawn for Nikon. The company's first ever full-frame DSLR, it offered a ground-breaking native sensitivity range up to ISO 6400 and expanded to an ISO equivalent of 25,600. Since then we've seen the updated D3s, and now the D4. With pretty much every area of the specification improved on over the D3s, the D4 promises a lot. Let's find out just how good it is…

### Features

The Nikon D4 uses a new 16.2MP, full-frame CMOS sensor combined with the newly developed EXPEED 3 image processing engine resulting in the D4 having a native ISO range from 100-12,800 which is expandable to 204,800. The D4 is also capable of shooting at up to 11fps at full resolution, though for full AF and exposure control this drops to 10fps.

There's a new 91,000-pixel metering system and Nikon's Advanced Scene Recognition System calculates the metering, white balance, flash exposure, Active D-Lighting, face detection and manages the AF system.

Nikon has tinkered with the Multi-CAM3500FX AF system which retains the 51-point AF arrangement, but the central 15 cross-type AF sensors are now sensitive up to f/8.

The rear screen has also been overhauled, with the LCD display a bit larger at 3.2in and a resolution of 921k-dots. It's not just the size that's changed either as the colour gamut is now close to the sRGB colour space for more accurate representation.

One of the biggest updates is the video capability, as the D4 can capture 1080p movies at 30/25/24fps using H.264 compression, or if you want to achieve slow-mo shots, 720p footage at 60/50fps, while there are three movie crop modes to choose from too: FX, DX and 2.7x (native 1920x1080). Not only is there an audio input for a microphone but an audio out too, so it's now possible to plug in some headphones to monitor the audio you're recording.

### Design

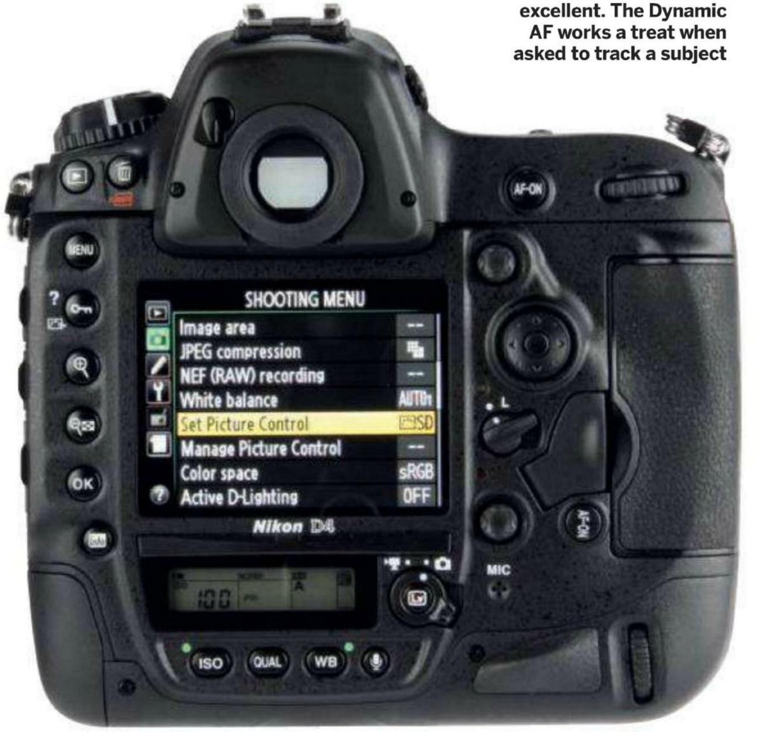
The Nikon D4 tips the scales at 1,340g, is constructed from tough magnesium alloy and the body has been sealed to protect against moisture, dust and electromagnetic interference.

The tactile feel of the rubberised handgrip is excellent, while the way the controls are intuitively laid out and can be easily reached when shooting make the D4 a joy to use. Both shutter buttons have also been

Model: Adriana from www.missionmodels.co.uk

**See the Nikon D4 in action**

The sophisticated 51-point AF system is excellent. The Dynamic AF works a treat when asked to track a subject



angled at 35° to make it more comfortable to handle after long periods of shooting.

The AF/M switch at the front of the camera no longer offers the choice of either AF-S or AF-C. Instead, there's now a button to press, while the front command dial can be used to select the dynamic area AF mode when in AF-C, or swap between single and auto in AF-S, with the setting displayed in the viewfinder and on the top-plate LCD.

## Performance

In AF-S mode, focus is acquired incredibly quickly and the low-light levels that it still manages to focus in is impressive. There's also the option to use 3D Focus Tracking – a predictive system that will track your subject across all of the 51 available AF points. In use, the focus tracking is hard to fault – in our tests, it worked very well and all round, the phase-detect AF system in the D4 is excellent.

In live view mode, contrast-detect AF is used. In use it's pretty good if you're going to be working with a tripod. To match the fast AF is a rapid frame rate, though it can't stake a claim to being the fastest DSLR out there. Shooting at 10fps and using an XQD it'll achieve a burst of 75 Raw files before the buffer finally slows up, which is incredibly impressive, and as for JPEGs the D4 will just keep shooting – there's no sign of any let-up after 100 shots.

The new 3.2in screen is crisp – images can be reviewed easily, the menu interface has been given the once-over and while there's a massive range of settings in the menu it's intuitive and very easy to navigate. The two new multi-selectors are a welcome addition, making portrait-format shooting much more pleasant and AF selection easier. Even in landscape orientation, the multi-selector sits exactly where the thumb rests, taking over from the d-pad for AF point selection.

## Image quality

The 3D Color Matrix metering coped very well under a range of lighting conditions and the tonal range of images is very good, with smooth graduations in colour. Auto White Balance delivered pleasing, neutral results. If results are too neutral however, then there's a secondary Auto White Balance that aims to keep warm lighting colours. Detail from the new sensor is excellent, especially at the lower ISOs when the resolving power of the sensor is very impressive.

## Value

There's no getting away from the fact that this is a pricey bit of kit at £5,289 – over £1,500 more than the price of the D3s at launch, though compared to its closest competitor, the Canon EOS-1D X, it pretty much matches it for price.

The high price puts it out of reach for most of us, but if you're a working pro who uses their kit day in, day out, then this is a sound investment considering the excellent performance, build and results that this camera is capable of.

### VITAL STATISTICS

| | |
|---|---|
| **PRICE** | £5,289 (body only) |
| **SENSOR** | 16.2MP full-frame CMOS |
| **OUTPUT SIZE** | 4928 x 3280px |
| **FILE FORMATS** | Raw (NEF), JPEG, Raw + JPEG |
| **SHUTTER SPEEDS** | 30-1/8000th second, Bulb |
| **ISO** | 100-12,800 (expandable to 50-204,800) |
| **WHITE BALANCE** | Auto, 12 preset, preset manual |
| **DRIVE MODE** | Single, Continuous low, Continuous high, Q (quiet), Self Timer, MUP (mirror up) |
| **MOVIE MODE** | 1080p HD video |
| **LCD** | 3.2in wide, 921k-dot TFT LCD |
| **VIEWFINDER TYPE** | Eye-level pentaprism |
| **FIELD OF VIEW** | 100% |
| **FOCUSING MODES** | Single-point AF, Dynamic-area AF, 3D-tracking, auto-area AF |
| **AF POINTS** | 51 selectable points |
| **MEMORY CARD** | Compact Flash and XQD slots |
| **CONNECTIVITY** | USB, HDMI, Stereo mini-jack in, Stereo mini-jack out, Ethernet |
| **POWER** | Rechargeable Li-ion EN-EL18 battery |
| **WEIGHT** | 1,340g |
| **DIMENSIONS** | 160 x 156.5 x 90.5mm |

**VERDICT** **While it may not be as groundbreaking as the original D3, the D4 is a better camera in every way. The new sensor is even better than the 12.1MP found in the D3s, while the jump in video quality and control means the D3s's weak point has been resolved.**

**In short then, the D4 is a fantastic DSLR to shoot with that delivers a mind-blowing performance, which is backed up by excellent results. The Nikon D4 has to be one of the best DSLRs we've seen and sets a new benchmark for a professional DSLR.**

**SCORE** Features 19/20 Performance 19/20 Design 19/20 Image quality 19/20 Value 17/20 **93%**

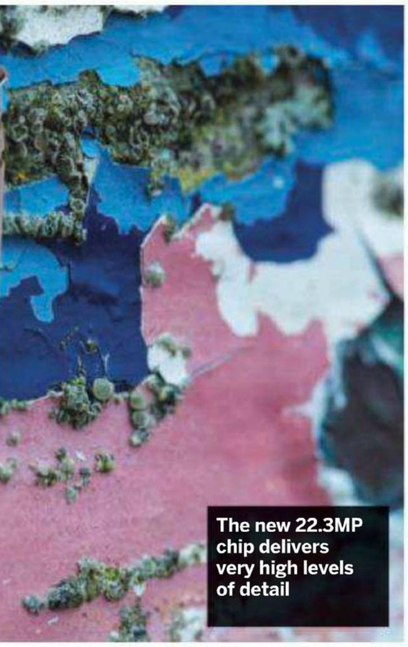
**£2999**

**PROS**

Excellent set of features, build quality is much better than Mk II, AF system and overall performance

**CONS**

Expensive compared to some rivals



The new 22.3MP chip delivers very high levels of detail

# Canon EOS 5D Mk III

## With a camera of such pedigree, there are naturally high expectations. Just how good is the Canon EOS 5D Mark III?

With the new EOS 5D Mark III, Canon says it has listened to feedback from existing users and claims to have improved performance in every area. There are naturally high expectations for the EOS 5D Mk III, especially with its pedigree. Has it been worth the wait?

### Features

While the resolution remains similar to that of the 5D Mk II, the design of the 22.3MP CMOS sensor inside the 5D Mk III is completely new, with gapless microlenses for improved light-gathering capabilities. This has led to a native ISO range that runs from 100 to 25,600 while the expanded range is now up to an ISO equivalent of 102,400.

The 5D Mk III boasts a maximum frame advance of 6fps. This is all thanks to the 8-channel readout and the new DIGIC 5+ image processor – the same image processor that's featured in Canon's flagship EOS 1D X. Meanwhile the 5D Mk III utilises a 61-point AF system – 41 of these are the more sensitive cross-type variant, while five of those AF points are dual cross-type to even greater AF precision.

The 5D Mk III uses a large, bright 100% viewfinder, while the screen size is 3.2in and has a 3:2 aspect ratio. There are now dual card slots on the 5D Mk III – as well as a CompactFlash card slot there's also an SD card slot.

### Design

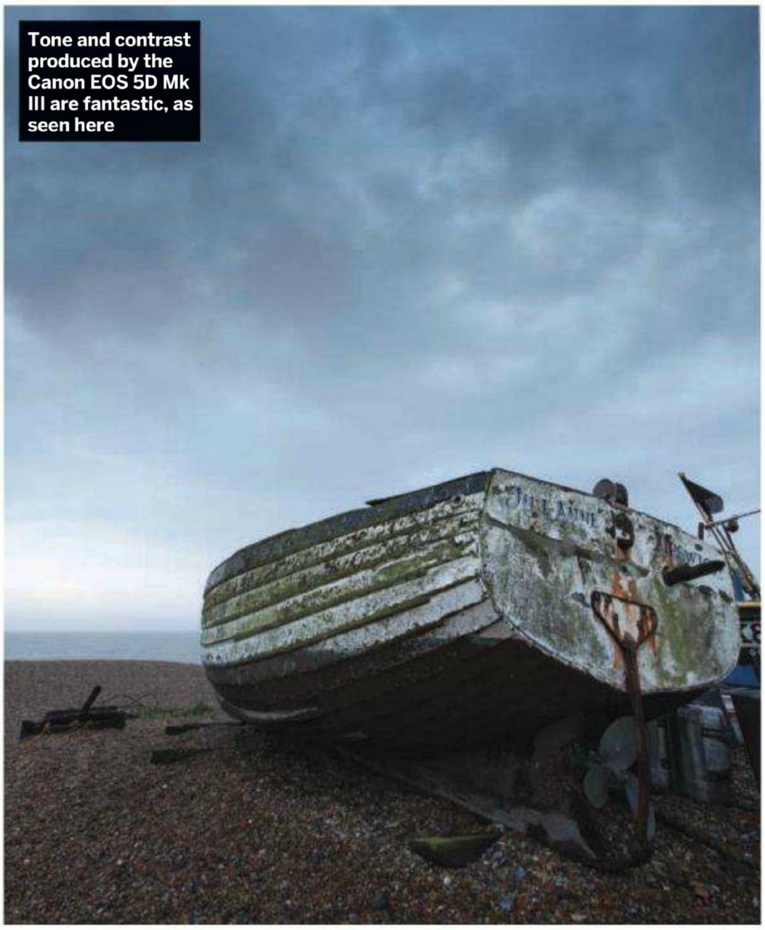
While viewed from a distance it may seem that the 5D Mk III looks almost identical to its predecessor, turn to the back of the camera and the differences are more obvious. The On/Off switch is now positioned round the collar of the mode dial and has a button lock on it so it can't be knocked out of the desired mode inadvertently.

While there's quite a bit changed from the 5D Mk II, existing users should feel right at home, while also these alterations make for a more polished and refined interface.

The body is constructed from high-

**The new LCD screen is bright, detailed and impressive to preview and playback images**
▼

Image quality
Image review 2 sec.
Beep Enable
Release shutter without card
Lens aberration correction ON
External Speedlite control
Mirror lockup OFF
Canon
SET
LOCK
AF-ON



Tone and contrast produced by the Canon EOS 5D Mk III are fantastic, as seen here

In spite of some subtle changes, the EOS 5D Mk III still handles as well as the 5D Mk II

grade magnesium, and there's now the same level of weather-sealing on the Mk III as there is on the 7D which means you should be able to carry on shooting with more confidence when the elements are against you.

## Performance

In Single One-Shot AF, focus locks on very quickly. You can use all 61 AF points if you wish, using the joypad or a combination of using the rear dial/front command dial. If you find this to be slightly overkill for general shooting, then the active AF points can be reduced to either the 41-point cross-type points, 15 points spread across the frame or nine points.

Switch to Live View and the Mk III can use either the 61-point phase-detect system or contrast-detect system. It's relatively quick in contrast mode, though don't expect instantaneous AF. Match this advanced AF with the 6fps that the 5D Mk III is capable of, and you have a pretty decent action camera. In our tests, we managed to shoot 22 Raw files at 6fps before the buffer slowed with a UDMA Class 7 Lexar card, while it's easily capable of shooting over 100 JPEGs at the same rate should you ever need to do so.

As well as the inclusion of a whole section for the AF, the menu interface has also been refreshed. It's now split into six main sections: Shoot, AF, Play, Set-up, Custom Functions and My Menu. These are then split into subsections, with navigation via the joypad. To jump quickly from section to section, hit the Q button.

## Image Quality

Metering coped well under a range of light conditions, though we did find that it underexposed with shots requiring a touch of (+0.3/0.7) exposure compensation to get more balanced results. Meanwhile, the Auto White Balance of the 5D Mk III is reliable, delivering pleasing results under a range of light sources, both indoors and out.

Side-by-side and the JPEG and unedited Raw files are very similar at low ISOs, though the differences are more pronounced as the sensitivity increases. JPEG files have image noise applied, with Luminance and Colour noise subdued – though this does come at the expense of sharpness, which the Raw file maintains to a better standard.

Image noise is very well controlled, with results up to ISO 1600 looking relatively noise-free. Above that at ISO 3200 and 6400, image noise becomes more noticeable, but it's still kept in check. At the upper reaches of the ISO sensitivity, luminance noise is an issue, with detail suffering. Considering the sensitivity you're shooting at though, it's impressive stuff and one of the best ISO performances we've seen from a DSLR.

## Value

The 5D Mk III comes in at £2,999 – quite a hike in price from the launch price of the Mk II, which can now be picked up for under £1,700. Canon believes that the Mk III is a whole different class of camera to the model that it supersedes, and we're inclined to agree. That aside, it's naturally going to draw parallels with Nikon's D800, and despite that camera's recent price rise, does make the Mk III the pricier of the two.

### VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 22.3MP full-frame CMOS sensor |
| **OUTPUT SIZE** | 5760 x 3840px |
| **LENS MOUNT** | Canon EF |
| **FILE FORMATS** | Raw (CR2), JPEG |
| **COMPRESSION** | Fine & Normal |
| **SHUTTER SPEEDS** | 30-1/8000th second, plus Bulb |
| **ISO** | 100 - 25,600 |
| **EXPOSURE MODES** | P, S, A, M, Bulb, Custom, Auto+ |
| **METERING SYSTEM** | 63-zone Dual Layer iFCL metering |
| **WHITE BALANCE** | Auto, 6 preset, custom |
| **DRIVE MODE** | Single, Cont., Silent, Self Timer |
| **LIVE MODE** | Yes |
| **MOVIE MODE** | 1080 (30/25/24p) HD video |
| **LCD** | 3.2in 1040k-dot LCD |
| **FOCUSING MODES** | One-Shot, AI Servo, AI Focus |
| **AF POINTS** | 61 selectable points |
| **PC SOCKET** | Yes |
| **CABLE RELEASE** | Yes |
| **BUILT IN FLASH** | No |
| **MEMORY CARD** | CompactFlash & SD (HC/XC) |
| **CONNECTIVITY** | USB, HDMI, AV, Headphone, Mic |
| **POWER** | Rechargeable Li-ion LP-E6 |
| **WEIGHT** | 950g |
| **DIMENSIONS** | 152 x 116.4 x 76.4mm |

**VERDICT** While the Mk II was more suited to specific photographic disciplines, the Mk III is a much more well-rounded, versatile DSLR. This is thanks to the boost in performance and while the resolution may remain similar to the Mk II, Canon hasn't stood still. The ISO improvements make the Mk III one of the best cameras around for shooting at high sensitivities, while the detail makes large prints a reality. All the weak areas that the Mk II suffered from have been ironed out and there's now very little to fault it on. Regardless of the genre the Mk III will be right at home.

**SCORE** Features 19/20 Performance 19/20 Design 18/20 Image quality 19/20 Value 17/20 **92%**

**£2890**

# Nikon D800

## The D800 features the world's largest-resolution full-frame sensor. Just how good is it?

Beneath the unassuming exterior is a stunning 36MP CMOS sensor

| PROS | CONS |
|---|---|
| Resolution is impressive, handling, build quality, extensive features | Image noise performance not as strong as some rivals, slow frame rate |

The D700 inherited many of the high-end features of the flagship D3, including the excellent 12.1MP full-frame sensor and advanced 51-point AF system all packaged up in a rugged, but more compact and affordable body. And now we have the D800 with a mouth-watering specification that includes a sensor knocking on the doors of medium format digital cameras in terms of resolution. Let's see how good it really is…

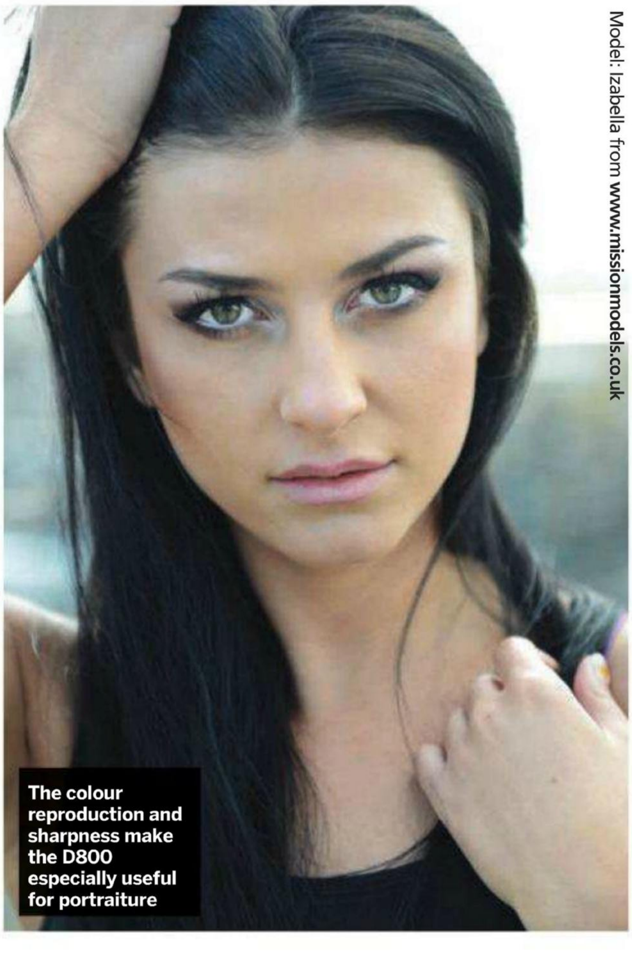
### Features

Compared to the 121.MP full-frame chip found in the D700, the D800 features an incredible 36.3MP full-frame CMOS sensor. Not only will it be possible to produce large prints with this kind of resolution, but there's the added flexibility of being able to crop much tighter into the image. With the increased pixel density over the D700, the ISO range doesn't alter that much. The standard range is from 100 to 6400, with the extended range running up to an ISO equivalent of 25,600. Even though the D800 features the same EXPEED 3 image processor as the D4, the high resolution does see the burst rate suffer slightly, dropping down to 4fps. This will be fine for general shooting, but you may find it a touch slow if you're going to be shooting action. The viewfinder itself has come in for improvement – the viewfinder in the D800 now offers a coverage of 100%.

### Design

The D800 takes some of the design cues from the D4 – it takes a much more sculptured, plumper shape compared to the D700 and the angle of the shutter button has been altered to make it more comfortable after long periods of shooting. The AF/M focus switch positioned to the side of the lens mount has also been refined, as there's now the single choice of AF or Manual. In order to select between Single or Continuous AF, there's now a button to press in the middle of the switch, and by using the sub command dial, you can toggle between the two modes.

The overall feel of the D800 is very good. Nikon has managed to make it 10% lighter than the D700 but it still maintains that high-end, quality feel. As you'd expect for a camera of this class, the body is constructed from magnesium alloy and comes with a host of weather-sealing to protect it from the elements, while the handgrip and its tactile rubber finish provides a solid grip.



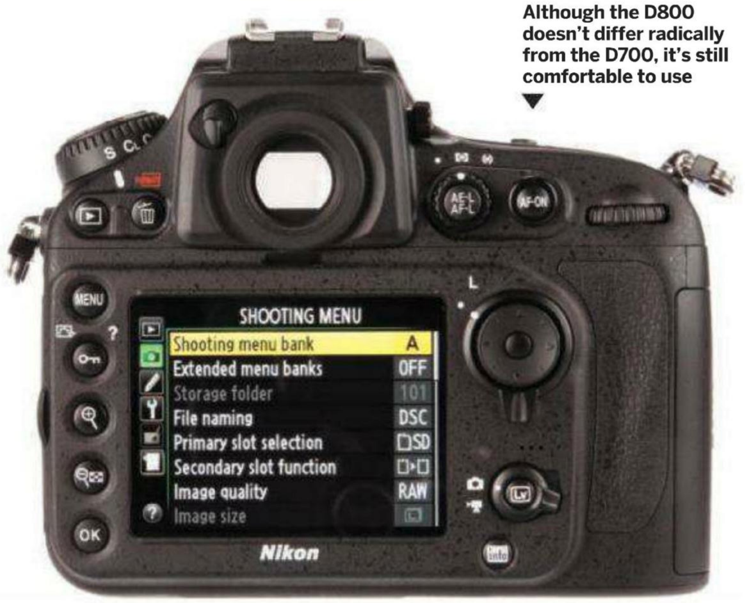
The colour reproduction and sharpness make the D800 especially useful for portraiture

Model: Izabella from www.missionmodels.co.uk

**See the Nikon D800 in action**

The solid, weather-sealed Nikon D800 shell can stand up to most levels of punishment

Detail and tonal range from the D800 can be breathtaking



Although the D800 doesn't differ radically from the D700, it's still comfortable to use

## Performance

The Advanced Multi-CAM 3500FX AF system in the D800 is very strong and won't disappoint. Switch to continuous AF and you can take full advantage of the Advanced Scene Recognition and 91,000-pixel RGB sensor. Add the 3D Focus Tracking into the mix that will track your subject across all 51 AF points and you have a very versatile and clever AF system that'll deliver the goods.

Using a UDMA 7 rated CompactFlash card, the D800 can shoot 16 consecutive Raw files at 4fps before the buffer needs time to clear the backlog. Pretty good considering the large files that are getting pushed through, though at 4fps, it may be a touch slow for some. However, switching to JPEG doesn't see a massive increase in the number of shots achievable in a burst, only increasing to 18 shots before slowing.

## Image quality

The D800 uses the new 91,000-pixel RGB sensor and offers the choice of three metering modes: 3D Color Matrix Metering III, Centre-weighted and Spot. In addition, you can alter the bias of the Centre-weighted metering area to 8, 12, 15, 20 or an average area. The new metering system worked very well – exposure was consistently accurate, even in tricky lighting conditions. The claim that the system will detect faces and give priority to that area of the image when assessing exposure is accurate – our test shots showed that against a backlit scene, a subject that would normally be left in shadow was perfectly exposed.

Set the D800 in Auto White Balance mode and the camera delivers nice, neutral-looking results. Just like we saw on the D4, there's also a secondary Auto White Balance that aims to retain warm lighting in shots. Along with the two AWB modes, the D800 has a selection of preset white balances to choose from: Incandescent, Fluorescent (seven types), Direct sunlight, Flash, Cloudy, Shade, and Preset manual (up to four values can be stored).

The jump from 12.1MP to 36.3MP is massive. Files have a native resolution of 7360 x 4912 pixels, and it's easily possible to produce A2 prints at 240ppi, while A1 prints are a realistic proposition.

As you would expect, the file sizes are very large, so you'll need a pretty high-spec'd and up-to-date computer to deal with those sizes, while storage and transfer speeds are another consideration. If you're looking to produce high-quality images, then you won't be disappointed. The power of the sensor matched with good glass will deliver first-class results.

## Value

The D800 was originally announced with a body-only price of £2,299, but has since been corrected to £2,599. Even with the price increase, it's still pretty good value and £400 less than its closest competitor, the Canon EOS 5D Mk III. It's also well under half the price of the 24.5MP D3X – until recently, the highest resolution camera Nikon offered.

### VITAL STATISTICS

**SENSOR**
36.3MP full-frame CMOS sensor

**FILE FORMATS**
Raw (NEF), JPEG

**SHUTTER SPEEDS**
30-1/8000th sec, plus Bulb

**ISO RANGE**
100-6400

**EXPOSURE MODES**
P, S, A, M

**WHITE BALANCE**
Auto, 6 Preset, Manual

**COLOUR TEMP**
2500-10,000K

**DRIVE MODE**
Single, Continuous, Quiet, Timer, Mirror Up

**LIVE MODE**
Yes

**MOVIE MODE**
1080 (30, 25, 24p) HD video

**LCD**
3.2in wide, 921k-dot LCD

**VIEWFINDER TYPE**
Optical viewfinder, 0.7x magnification

**FIELD OF VIEW**
100%

**FOCUSING MODES**
Single-point AF, 9, 21 or 51-point dynamic-area AF, 3D-tracking, auto-area AF

**AF POINTS**
51 selectable points

**MEMORY CARD**
CompactFlash & SD (HC/XC)

**CONNECTIVITY**
USB, HDMI, Mic, Headphones, 10-pin remote terminal

**POWER**
Rechargeable Li-ion battery

**WEIGHT**
1,000g

**DIMENSIONS**
146 x 123 x 81.5mm

**VERDICT** **While the D700 was a great all-round DSLR, the D800 is slightly more specialised. The high ISO performance sees it lose out to the competition, while the frame rate can make it feel slow when shooting action. These minor negatives are to some extent brought about by the camera's main appeal – its resolution. If you're prepared to make small sacrifices, then the results from the D800 will blow you away. Combine that with the quality feel and extensive feature set, and the D800 is a first-class DSLR that won't disappoint.**

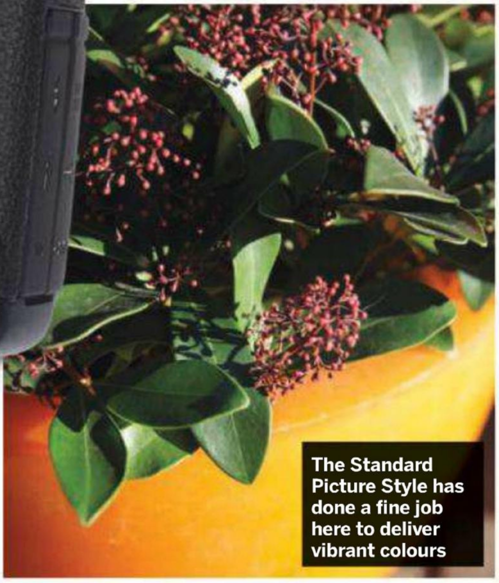
**SCORE** Features 19/20 Performance 19/20 Design 17/20 Image quality 19/20 Value 18/20 **92%**

**DLSR** **CANON 5D MK II**

See the 5D Mk II in action

**£2100**

| PROS | CONS |
|---|---|
| Excellent image quality, good noise control, colour rendition, great LCD screen, usable video | ISO 25,600 unusable, chromatic aberrations fail to be removed |



The Standard Picture Style has done a fine job here to deliver vibrant colours

# Canon 5D Mk II

## Canon's long-awaited follow-up to the impressive full-frame EOS 5D more than lives up to expectations...

The Canon EOS 5D Mark II is the original HD DSLR, with HD video recording at the helm, along with a 21MP sensor, and maximum ISO of 25,600.

### Features

Measuring 36 x 24mm the sensor qualifies as full frame, and the DIGIC 4 processing engine that debuted in the EOS 50D. Benefits are said to include faster image processing, an extension to the dynamic range, finer tonal gradations and improved noise reduction. The processor has also allowed for a faster burst rate, with a 3.9fps rate maintained for up to 78 JPEG frames, or 310 when using UDMA media. Raw files may be recorded at 13 and 14 frames respectively, while a capture of the two is limited to eight frames, regardless of the card used.

The movie resolution is at 1920 x 1080 pixels with the frame rate at 30fps, and files may be recorded for up to 12 minutes at its optimum setting, while a reduced resolution records up to 29 minutes and 59 seconds, or 4GB in size, whichever comes soonest.

### VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 36x24mm CMOS, 22MP |
| **OUTPUT SIZE** | 5616 x 3744 pixels |
| **FOCAL LENGTH MAG** | 1x |
| **FILE FORMAT** | Raw, JPEG, Raw+JPEG, sRaw1, sRaw2 |
| **SHUTTER SPEEDS** | 30-1/8000 sec, bulb |
| **ISO** | 100-3200 (ext. to ISO 25,600) |
| **WHITE BALANCE** | Auto, 7 presets, Custom |
| **DRIVE MODE** | 3.9fps |
| **LCD** | 3in, 920,000 dots |
| **VIEWFINDER TYPE** | Pentaprism |
| **FIELD OF VIEW** | 98% coverage |
| **AF POINTS** | 9-point (with six assist points) |
| **MEMORY CARD** | CF Type 1 and 2, UDMA |
| **POWER** | LP-E6 Rechargeable Li-ion |
| **CONNECTIVITY** | USB 2.0 Hi-speed, mini HDMI, mic input, Extension system terminal (for WFT-E4) |
| **WEIGHT** | 810g |
| **DIMENSIONS** | 152 x 113.5 x 75mm |

### Performance

The standard focusing system is largely unchanged from the original 5D, though its square markings are a little darker and more defined. As with the 40D, its configuration sees nine points arranged in a diamond pattern, though the increased size of the sensor means that their spread covers less of the total area, and is more confined to the centre. This presents the camera with a problem finding off-centre subjects, and as a result it is sometimes necessary to focus using the more sensitive centre-point and then recompose.

**The bright pentaprism viewfinder offers 98% coverage and the most often used controls are closer to the mode dial**

▼

### Image quality

With the exception of high-contrast scenes, where the camera occasionally underexposes, the metering system is hard to fault. Colour is excellent, with vibrant tones at default. At higher sensitivities images from the 5D Mark II remain detailed and colourful despite showing noise. The camera can capture an astonishing level of detail, and does this very well even at higher sensitivities.

### Value

At around £2,100, the 5D Mark II is considerably more expensive than the Nikon D700 and Sony A900. For the Canon user it represents very good value, particularly when considering its feature set.

**VERDICT**

**The 5D Mark II offers Canon users the resolution of the 1Ds Mark III in a smaller and much cheaper body. Perhaps critically, we not only get the best EOS image quality yet, but at less than half the price of the 1Ds Mark III. When everything is considered, the EOS 5D Mark II is a superb DSLR and perhaps is the finest EOS DSLR released to date.**

**SCORE**

| Features | Performance | Design | Image quality | Value |
|---|---|---|---|---|
| 19/20 | 18/20 | 18/20 | 19/20 | 18/20 |

**92%**

See the D700 in action

**£1800**

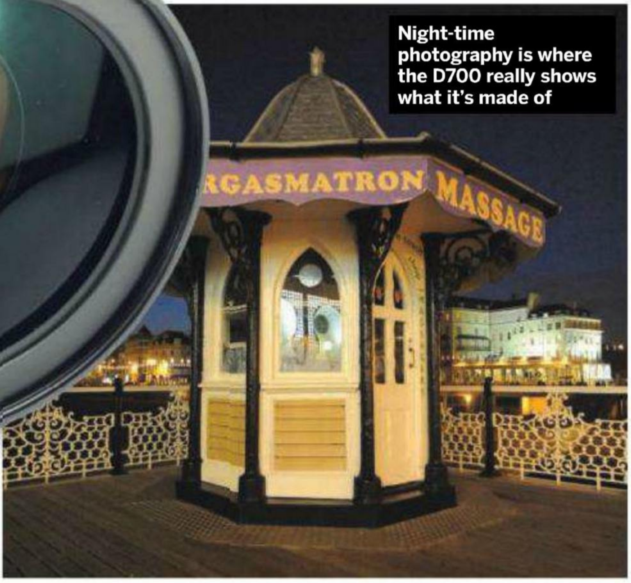
With a comparatively compact body the D700 is one of the most portable full-frame cameras available

## PROS

Noise control, LCD screen, overall image quality, focusing system, metering, white balance

## CONS

No DX masking, very minor handling issues, Capture NX 2 only a trial



Night-time photography is where the D700 really shows what it's made of

# Nikon D700

### The D3's spec inside the D300's body… but is the D700 too good to be true?

The D700's price pitches it pretty much bang in between the D300 and D3, further saturating the enthusiast/professional sector. Perhaps more crucially, the intervening time has given the company a chance to garner the feedback and opinions of D300 and D3 users, to iron out any wrinkles, and essentially to distil a more refined compromise between the two.

## Features

The same full-frame, FX-format CMOS sensor as seen in the D3 outputs an effective resolution of 12.1MP. The D700 has an ISO range from 100 to 25,600 although anything beyond 200-6400 will be subject to noise reduction. In terms of image optimisation Nikon's Active D-Lighting system is present, and works by applying an adjustment curve for the benefit of shadow and highlight retention. The 3D Colour Matrix II metering system has also been carried on from the D3, while live view is available, supporting both manual and auto focusing.

## Design

To withstand the rigours of professional use, the D700 is sealed against moisture, dust and even electromagnetic interference. It's been constructed from a magnesium alloy frame and features a similar button and control arrangement to previous Nikon models although there is decidedly less room around the back for your thumb to breathe than on the D300. Perhaps the first thing that strikes you about using the camera's performance is its near-instantaneous start-up. This is matched by the repsonsiveness of the shutter release which with so little travel only requires the slightest push.

Bearing an uncanny resemblance to the D300, Nikon users will feel at home

## Image quality

Shot after shot, exposures were balanced and detail was well kept. The camera's AWB system did remarkably well to reproduce faithful conditions, and the D700 exhibits fantastic control over noise. The level of detail the camera manages to capture is impressive to say the least, particularly in areas where you may assume detail is lost. This is largely lens dependent, though, with only quality optics matching the sensor.

## Value

It's tricky to judge how good-value the D700 is, for the simple reason that it pretty much sits in a class of its own but at the moment, within its own class, the D700 is unrivalled.

## VITAL STATISTICS

| | |
|---|---|
| SENSOR | FX-format CMOS type, 12.1MP |
| OUTPUT SIZE | 4256 x 2832 pixels |
| FOCAL LENGTH MAG | FX - None / DX - 1.5x |
| FILE FORMAT | NEF, JPEG, TIFF, NEF+JPEG |
| SHUTTER SPEEDS | 30 - 1/8000sec, bulb |
| ISO | 200-6400 (exp. to 100-25,600) |
| WHITE BALANCE | Auto, six presets, manual |
| DRIVE MODE | Single, cont. low, cont. high |
| LIVE MODE | Yes |
| LCD | 3in TFT, 920,000 dots |
| FOCUSING MODES | Single-point AF, auto area AF, dynamic Area AF |
| BUILT-IN FLASH | Yes, GN 12 @ ISO 100 |
| MEMORY CARD | CompactFlash Type 1, UDMA |
| POWER | EN-EL3e lithium-ion |
| CONNECTIVITY | Hi-Speed USB |
| WEIGHT | 995g (without battery, card, acc) |
| DIMENSIONS | 147 x 123 x 77mm |

**VERDICT**

**Nikon has played a smart card with the D700, where professional credentials meet affordability. The small issues the camera does have – such as occasional banding at high sensitivities and lack of DX masking – pale in comparison to its plusses. I defy anyone to use the D700 and not be impressed by its ability to pop out perfectly exposed images.**

| SCORE | Features 19/20 | Performance 19/20 | Design 19/20 | Image quality 19/20 | Value 19/20 | 95% |
|---|---|---|---|---|---|---|

**£1700**

# Canon EOS 7D

## PROS

Build quality, 8fps, viewfinder, focus speed, high ISO, image quality, video functions

## CONS

Lots of menus, current high price, no second card slot

◀

**The EOS 7D offers a weather-sealed frame, comprised of magnesium alloy, making it capable of withstanding most conditions**

▶

**At the rear of the camera both a thumbstick and large dial are present for navigating menus and altering values**

## Built from the ground up, this reinvention of the mid-range APS-C DSLR could be Canon's best ever camera. We put it through its paces

The Canon EOS 7D is not a replacement for either the EOS 50D or EOS 5D, but fills the vast price gap between them. Re-designed from the ground up based on feedback from EOS users, it features a brand new 18MP CMOS sensor which has a gapless microlens construction. It outputs at 5184 x 3456 pixels, with data converted as a 14-bit process for extra tone.

### Features

The 7D utilises dual DIGIC IV processors, outputting in eight channels for added speed, allowing the camera to shoot up to eight frames per second. This also makes it better able to deal with image noise, with levels at ISO 6400 being similar to those at ISO 1600 with the DIGIC III processor. This enables an expanded Hi-1 setting of ISO 12,800.

The 63-zone dual layer metering system analyses focus, colour and luminance data and demonstrated flawless performance in our tests, while the autofocus system, with its 19 cross type points (10 more than the 50D has) is impressively quick. Meanwhile, the large and bright viewfinder offers a full 100% field of view and 1x magnification.

In addition, for the first time on a Canon DSLR, it also offers a dual axis electronic level, viewable through the viewfinder, to help in keeping horizons straight.

The rear 3in 920k-dot Clear View II LCD monitor is a joy to use. The movie mode offers full 1080p HD at 30, 25, or 24 frames per second, and up to 60fps at lower resolutions. Full manual exposure is possible during shooting. Thanks to the H.264 compression, video clips can be up to 12 minutes in length, or 29.59mins in standard definition (up to 4GB in size). There's a 3.5mm jack input for an external stereo mic if required. In addition to the built-in flash (GN12) the 7D is the first EOS to offer in-camera wireless multi-flash control for Speedlite models.

### Design

The rugged magnesium alloy body features weather-sealing on a par with the professional Canon EOS 1n SLR camera. A large number of external buttons can be customised from the menu, which is divided

▲

**As well as buttons on the back, the top-plate also features various buttons for additional control**

See the EOS 7D in action

◀ At ISO values under 800 no noise whatsoever appeared on the images, and both sharpness and detail were hugely impressive

## VITAL STATISTICS

| | |
|---|---|
| **PRICE** | £1,700 (RRP body only) |
| **SENSOR** | 18MP CMOS, 22.3 x 14.9mm |
| **OUTPUT SIZE** | 5184 x 3456 pixels |
| **FOCAL LENGTH MAG** | 1.6x |
| **FILE FORMAT** | Raw, JPEG, Raw+JPEG |
| **SHUTTER SPEEDS** | 30s-1/8000sec + Bulb |
| **MAX FLASH SYNC** | 1/250sec |
| **ISO** | 100-6400 (12,800 expanded) |
| **METERING SYSTEM** | TTL, 63-zone Dual Layer SPC |
| **WHITE BALANCE** | Auto, 6 Presets, Custom |
| **DRIVE MODE** | Single, continuous, self timer |
| **LIVE MODE** | Yes |
| **LCD** | 3in, Clear View II 920k dots |
| **VIEWFINDER TYPE** | Eye-level pentaprism |
| **FIELD OF VIEW** | 100% (approx) 1x magnification |
| **FOCUSING MODES** | Auto, Single point, Spot AF, AF point expansion, Zone AF |
| **AF POINTS** | 19 point (all cross-type) |
| **BUILT-IN FLASH** | Yes (Guide No. 12) |
| **MEMORY CARD** | CompactFlash |
| **POWER** | Rechargeable li-ion LP-E6 |
| **CONNECTIVITY** | HDMI, USB, Sys terminal, Mic-in |
| **WEIGHT** | 820g (body only) |
| **DIMENSIONS** | 148.2 x 110.7 x 73.5mm |

into colour-coded icon-based sections, that can be scrolled through using the mini joystick or the finger dial and large rear dial.

The high-speed continuous burst mode on the 7D is its standout feature, offering a blistering eight frames per second. Using a Lexar 300x UDMA CompactFlash card it managed an earth-shattering 358 JPEGs before slowing down.

### Image quality

The metering system manages to keep both highlight and shadow details with little problem. For trickier scenes there's a Highlight Tone Priority function, which avoids losing highlights by altering the metering before taking the shot, and an Auto Lighting optimiser that can be set to Low, Standard, or Strong and uses post processing to adjust the brightness and contrast.

The Auto White Balance system is as reliable as you could ask for, no matter what light source is thrown at it. JPEG images show definite signs of noise processing, which manages to make even ultra-high ISO values appear usable by removing the nasty colour noise with very little loss in image detail. The unprocessed Raw files do show some noise above ISO 800 and colour noise becomes fairly heavy above ISO 3200 but they retain a little more detail, so by using the Raw file, and adding your own noise reduction, it is possible to get the best of both worlds.

If you allow the camera to perform noise reduction, however, noise is very minimal even at ISO 6400, and even the High-1 ISO 12,800 setting is not beyond use. With this quality of output almost no scene is beyond the camera, though in order to ensure optimum results it is best to stay below ISO 800. Overall, images were well detailed and blisteringly sharp.

**VERDICT** **The 7D is a solid and well-built camera. The quality of the results, the high ISO and the video performance make this a serious alternative to the EOS 5D, and it is likely to be as popular for videographers as for stills photographers. Overall, the 7D will be an aspiration for all enthusiasts, and those who buy it will not be disappointed.**

**SCORE** Features 20/20 Performance 19/20 Design 19/20 Image quality 19/20 Value 17/20 **94%**

**£1149**

A solid, robust, weatherproof body makes the A77 a camera for all environments

**PROS**

Ultra-fast performance, intuitive operation, specification

**CONS**

EVF not for everyone, slow start-up, relatively poor battery life

**With an impressive spec that puts its rivals in the shade, the Alpha 77 from Sony promises a lot. But does it deliver?**

# Sony Alpha 77

Sony's Alpha 77 implements the translucent mirror technology (SLT) that we first saw in the A55 and A33 models. Could this be the camera that'll keep the engineers at Canon and Nikon awake at night? Let's find out...

## Features

The 24.3MP APS-C CMOS sensor eclipses anything seen on an APS-C DSLR and most full-frame DSLRs. With the help of the next-generation BIONZ image processor, the ISO range runs from 100 to 16,000, and can be expanded to a low ISO equivalent setting of ISO 50.

The SLT solution hasn't always been popular, because electronic viewfinders (EVF) haven't had the same clarity or responsiveness as a traditional optical viewfinder. The XGA OLED (Organic Light Emitting Diode) TruFinder in the Sony Alpha 77 is the highest-spec EVF we've seen however, with a resolution of 2.36 million dots that Sony hopes will make you forget that you're using an EVF.

The Alpha A77 also features a 19-point selectable AF system with Quick Tracking AF, while 11 of the 19 AF points are cross-type, being sensitive to both vertical and horizontal orientation. These work at apertures of f/5.6 or wider, rather than f/2.8, which most other systems require, so fast and expensive lenses to get the full benefit of the AF system aren't essential. Because a portion of the light hitting the semi-transparent mirror is directed to the AF sensor above the mirror, phase-detect AF is possible, rather than the slower contrast-detect method found in most other mirrorless cameras.

The frame rate of the Alpha A77 should keep sports and action shooters happy. With a maximum achievable rate of 12fps (frames per second), it even beats Canon's pro-spec 10fps EOS-1D Mk IV and Nikon's 9fps D3s. This is achieved via the SLT-A77's dedicated Continuous Advance Priority mode, as selected on the mode dial. If Continuous AF is selected when in this mode, you won't be able to adjust the shutter speed or aperture yourself, but the camera will constantly adjust AF and exposure for you throughout shooting, though ISO sensitivity can be user-defined. In Single Shot AF, aperture and ISO can be adjusted, but focus is locked at the first frame. For more control, then there's a more traditional Continuous drive mode, though at a slightly reduced rate of 8fps.

Even in testing conditions such as direct sunlight the metering does a superb job

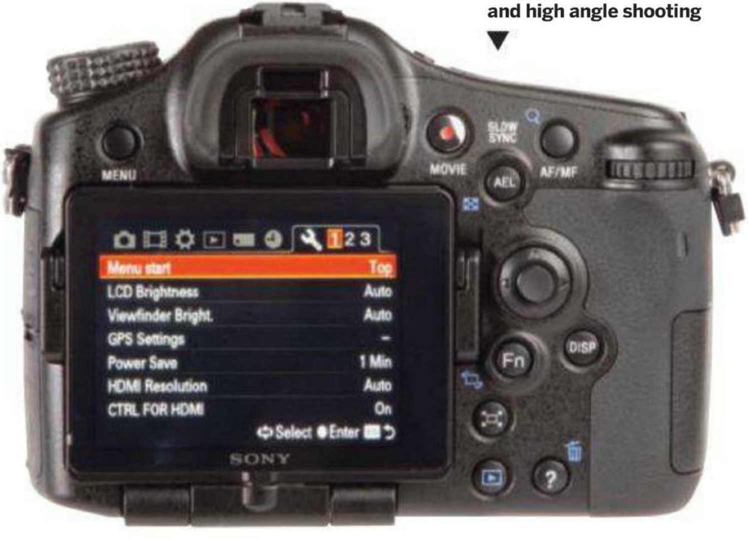
## Design

The Alpha 77 looks a sleeker affair compared to the A700 and the absence of a pentaprism means it appears to be quite low-slung against its rivals. The chassis of the A77 is constructed from tough magnesium, while most of the exterior is coated in a high-impact plastic with a high-end splatter effect. While metal would have been preferred, it still feels very solid in the hand, with key buttons being protected from dust and moisture.

As you'd expect from a camera aimed more towards the enthusiast, the Alpha 77 is sprinkled with

**See the A77 in action**

The rear LCD screen is hinged at the bottom for low and high angle shooting



quick-access controls, meaning less time needs to be spent in the main menu. On the top-plate there's access to ISO, exposure compensation, white balance and drive mode, while the top-plate is also home to an LCD.

## Performance

The A77's OLED viewfinder of 2.4 million dots – almost double that found in the A35 and A55 – delivers a really clear and crisp image. Coverage is 100% and with a magnification of 1.09x, it feels far from tunnel-like. It's the best EVF we've seen in any camera to date. Because of the A77's progressive refresh, tearing isn't an issue, though fast movement hasn't fully eradicated ghosting in all circumstances. Overall, the EVF is a success even though it's not quite a match for an optical one.

The A77's 19-point AF system is up against excellent AF systems found in both the Canon EOS 7D and Nikon D300s. Sony's AF system may seem overshadowed by the 7D's 19-point (all cross-type) and the D300s's 51-point (15 cross-type) AF systems, but in practice it works very well indeed. There are four AF area modes to choose from – Wide, Zone, Spot and Local – while AF point selection is quick thanks to the multi-directional joystick. In single-shot AF, the A77 locks on to static subjects with ease, and the AF was fast and precise with no hunting issues to cause concern. Switch to Continuous AF and it's a similar story. While it may not have the same level of AF fine-tuning and custom functions as its two rivals, it performed very well. Pair this with the ultra-fast 12fps, and you have a very desirable action camera.

Because the Alpha 77 uses full-time phase-detect autofocus, focusing during live view is excellent, and is a mirror of what you experience while shooting with the EVF. The design of the hinged screen allows for a plethora of positions that suit both portrait and landscape format shooting, while the screen itself is crisp and sharp, allowing you to easily assess your images on location.

The Alpha 77 is very easy to pick up and start shooting with. Most controls are easily accessed, while the Function button allows you to tinker with a host of other commonly used controls.

Because the battery is kept busy with the EVF as well as the rear display, we found that the battery drained quicker than its rivals.

## Image Quality

Even in high-contrast scenes, the multi-segment metering of the Sony Alpha 77 performed very well, delivering well-exposed images. It was only every now and again that a minor increase in exposure compensation was needed to counteract slightly underexposed images.

The 24.3MP APS-C type CMOS sensor delivers files that can be around 10MB in size (or 68MB when opened in Photoshop), while Raw files take up 25MB. Detail and sharpness are both excellent, but it's worth bearing in mind that you won't see a massive leap in resolving power compared to results from a 16MP or 18MP chip.

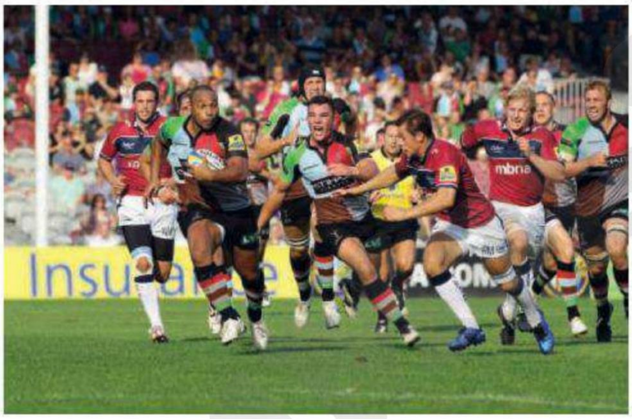
From the base ISO to 3200, results display very minimal levels of image noise. As you would expect, above that, and image noise creeps in and becomes more prominent – ISO 12,800 and 16,000 should only really be used as a last resort.

## Value

At £1,149 body only, the Alpha 77 is by no means a cheap piece of kit, but works out at a similar price to its closest rivals. It offers a wealth of features for your cash. In most cases, it either matches or betters both the excellent Canon EOS 7D and the Nikon D300s.

### VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 24.3MP APS-C type CMOS |
| **FILE FORMATS** | Raw (ARW), JPEG, Raw + JPEG |
| **COMPRESSION** | Extra Fine, Fine & Standard |
| **COLOUR SPACE** | sRGB, Adobe RGB |
| **SHUTTER SPEEDS** | 30-1/8000th second, plus Bulb |
| **ISO** | 100-16,000 |
| **EXPOSURE MODES** | Auto, Auto+, P, S, A, M, Scene, Sweep Panorama |
| **WHITE BALANCE** | Auto, 5 Preset, Custom |
| **DRIVE MODE** | Single, Continuous, Timer, Bracket |
| **LIVE MODE** | Yes |
| **MOVIE MODE** | 1080 (25/50p) HD video |
| **LCD** | 3in wide, 921k-dot, vari-angle TruBlack LCD |
| **VIEWFINDER TYPE** | 2.4m-dot 1.09x mag EVF |
| **FOCUSING MODES** | Single-shot, Automatic, Continuous |
| **AF POINTS** | 19 selectable points |
| **MEMORY CARD** | SD/SDHC/SDXC & Memory Stick PRO Duo/PRO-HG Duo |
| **CONNECTIVITY** | USB, HDMI, Flash, Mic |
| **POWER** | Rechargeable Li-ion battery |
| **WEIGHT** | 653g |
| **DIMENSIONS** | 142.6 x 104 x 80.9mm |



**VERDICT** The Alpha 77 is a fantastic piece of kit dripping with a host of features to keep serious photographers happy. The OLED EVF is the best example we've ever seen, allowing you to just get on and shoot. Image quality from the 24.3MP sensor is excellent. It can't quite match the Nikon D7000 or Canon 7D at the higher ISO levels, but it's fairly close, and excels in detail and tonal range over its rivals. Sony's uncompromising approach to the A77 means it matches some excellent competition and beats them in a number of areas too.

**SCORE** Features 19/20 Performance 18/20 Design 19/20 Image quality 18/20 Value 18/20 **92%**

**£1300**

# Nikon D7000

A much-anticipated release that turns over a new chapter for Nikon. Does it live up to the hype?

**PROS**

Fantastic AF system, excellent picture quality, great battery life

**CONS**

A little expensive, screen could be higher resolution, kit lens doesn't show camera's full potential

Detail produced by the D7000's 16.2MP sensor carried superb detail and tonal range

With brand new autofocus and metering systems, at its launch the Nikon D7000 was the first to see the latest 16.2MP sensor but just how impressive is this release?

## Features

The D7000 adopts a new 16.2-megapixel CMOS sensor, ISO range of 100-6400 to a top-end Hi2 setting at the equivalent of ISO 25,600. In terms of a burst mode, the D7000 offers a pleasing 6fps. The rear of the camera has a fixed 3in, 920k-dot LCD screen and twin SD card slots.

## Design

The camera's layout comprises a light-up display panel to the top right, with a mode dial and surrounding drive mode dial to the opposite left-hand side. To adjust the drive mode a small button requires pressing to release the dial lock which can prove a little fiddly. In addition, three of the four main buttons to the rear left can be pressed and held for adjustment of the major options. In short, you're never far from quick and easy control.

## Performance

The D7000's entirely new 39-point AF system will be the clincher for many people because it really increases the complexity at your disposal.

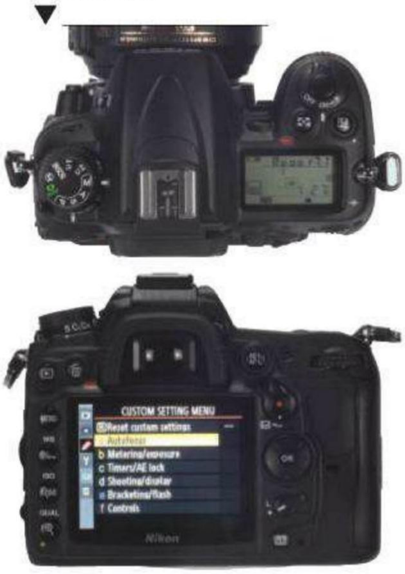
With LCD screen resolutions increasing and more commonly found upwards of the one-million-dot mark, the D7000's 3in, 920k-dot screen may not be pushing any boundaries but it's perfectly adept for preview and playback.

Using the brand new EN-EL15 li-ion battery it was possible to shoot 50 minutes of movie clips in addition to 500 still (Raw + JPEG) images.

### VITAL STATISTICS

| | |
|---|---|
| SENSOR | 16.2MP CMOS |
| FILE FORMAT | Raw, JPEG, Raw & JPEG |
| COMPRESSION | Small / Medium / Large |
| SHUTTER SPEEDS | 30 - 1/8000th second, Bulb |
| ISO | 100-6400 |
| EXPOSURE MODES | Auto, PSAM, Scene, U1 & U2 |
| METERING SYSTEM | TTL 2,016-pixel RGB sensor |
| WHITE BALANCE | Auto, 7 presets, Manual |
| DRIVE MODE | S, CL, CH, Q, Timer, Remote, MUP |
| LIVE MODE | Yes |
| LCD | 3in, 920k-dot LCD |
| FOCUSING MODES | AF, Single-servo, Cont-servo, Focus tracking, M |
| AF POINTS | 39 points |
| MEMORY CARD | Twin SD card slots |
| POWER | Rechargeable Li-ion battery |
| CONNECTIVITY | HDMI, USB 2.0, AC adaptor |
| WEIGHT | 780g |
| DIMENSIONS | 132 x 105 x 77mm |

**In spite of not being ground-breaking in terms of its design, the D7000 is a well-laid-out DSLR**



## Image quality

The D7000 does a reasonable job of metering, though there were a number of instances when the camera drifted towards overexposure. Colour leans towards a warmer red/yellow cast in the majority of situations, although Auto White Balance is consistent enough. The 16.2MP sensor is of a high resolution and images are impressively detailed. Only the higher ISO sensitivities slightly soften images, though this only becomes apparent from ISO 1600 where a subtle shift is noticeable, though the Hi1 and Hi2 settings are fairly detrimental to fine detail due to noise reduction.

## Value

Price is as critical as any other element and the D7000's initial RRP is towards the top-end. That's not to challenge its worth, as the D7000 easily feels like a thousand pound's worth of camera.

**VERDICT** **The Nikon D7000 is an absolutely exceptional DSLR that offers a lot of pro-like specification for a consumer-aimed model. The new 39-point AF system is fantastic and the images are of exceptional quality right into the high ISO setting. The D7000 succeeds in carving out a new niche in the DSLR category and provides bags of power for the money.**

**SCORE** Features 19/20 Performance 19/20 Design 19/20 Image quality 18/20 Value 17/20 **92%**

**£1180**

**PROS**

Best-yet AF system, image quality, weather-sealed design, super-fast continuous shooting

**CONS**

Underwhelming 18-55mm kit lens, no AF in movie mode, Motion-JPEG only movie files

# Pentax K-5

## Pentax's best DSLR yet: new sensor, new AF system and plenty more to boot. Can the K-5 do no wrong?

The K-5 comprises Pentax's most advanced features to date, all wrapped up into one small, neat package with a brand new sensor, improved focusing system, super-fast seven frames per second continuous shooting and much more.

### Features

At the camera's heart is a brand new 16.3-megapixel CMOS sensor, combined with the Prime II image processing engine that can produce a top-end sensitivity of up to ISO 51,200. On the rear you'll find a 3in, 921k-dot LCD and in addition to stills shooting the K-5 offers Full HD 1080p recording at 25fps. Plus there's a fully weather-sealed body and the K-5 can shoot at an impressive 7fps.

### Design

In terms of look and feel the K-5 is barely different from its K-7 cousin. The mode dial has a lock button in its centre that needs to be depressed which is fiddly to use. Elsewhere, the layout is a success. Front and rear thumbwheels feature for easy adjustment of options while a rear d-pad and a variety of one-touch and quick access buttons are on the back.

### Performance

In use the K-5 is generally very adept indeed. The new focusing system is relatively fast, and is certainly the company's best yet. The viewfinder offers a full 100% field of view, so what you see is what you get, and the 3in offering on the rear of the camera has an ample resolution. The ability to capture 7fps in continuous shooting is impressive, but just make sure you have a fast enough card to maintain a sustained burst.

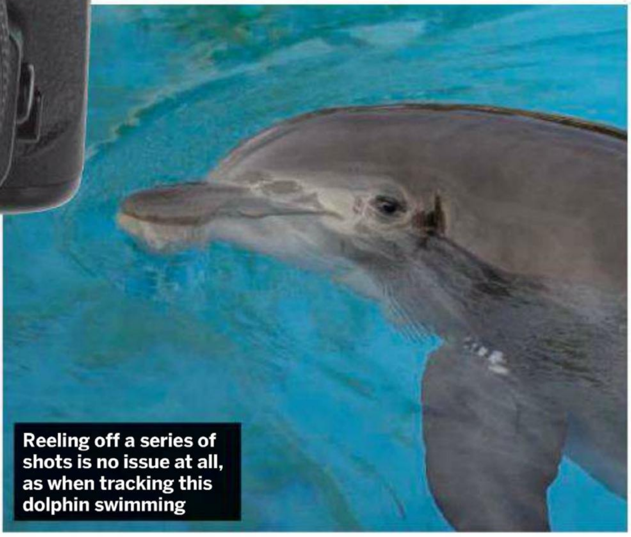
### Image quality

The K-5 provides exceptional metering and exposure. Tonally shots can come across a little flat, though this is perfectly adept for life-like realistic prints. Colours are punchy to look at, but not overly so. Auto White Balance was generally accurate – though can be a little on the warm side for both interior and exterior shots.

Similarly to ISO sensitivity, detail diminishes pretty quickly when heading to the upper settings. ISO 51,200 delivers little discernible detail, but dip into the lower ISO 80-800 and hair-line detail can be seen, even to some degree at ISO 1600.

### Value

For £1,180 the K-5 offers a whole lot for the money including weather-sealing and super-fast continuous burst options.



Reeling off a series of shots is no issue at all, as when tracking this dolphin swimming

### VITAL STATISTICS

**SENSOR**
16.3MP APS-C CMOS sensor
**FILE FORMAT**
Raw (14bit), JPEG, RAW + JPEG
**SHUTTER SPEEDS**
30 – 1/8000th second, Bulb
**ISO**
80-51,200
**EXPOSURE MODES**
P, A, S, M, Sv, Scene Modes, Movie
**METERING SYSTEM**
77-segment
**EXPOSURE COMP**
Yes, +/-3EV (in 1/3 stops)
**WHITE BALANCE**
Auto, 7 Preset, Manual
**DRIVE MODE**
Single, Cont., Timer, MUP
**LIVE MODE**
Yes
**LCD**
3in, 921k-dot LCD
**FOCUSING MODES**
AF.A, AF.S, AF-C, MF
**BUILT-IN FLASH**
Yes, GN 13
**MEMORY CARD**
SD (HC/XC)
**POWER**
Rechargeable li-ion battery
**CONNECTIVITY**
HDMI, USB, cable, X-sync, mic
**WEIGHT**
660g body only
**DIMENSIONS**
97 x 131 x 73mm

The robust nature and weatherproof sealing present on the K-5 make it ready for anything ▼

**VERDICT** At first glance the K-5 may seem a lot like the K-7. While, in some respects, this is true, it delivers quite a lot more. Image quality is stunning, and the fully weather-sealed body and 7fps bust mode are great to have. The K-5 has bags to offer, is generally good value and arguably the very best digital Pentax DSLR camera we've ever seen.

**SCORE** Features 19/20 Performance 17/20 Design 18/20 Image quality 18/20 Value 18/20 **90%**

See the 60D in action

£989

**PROS**

Image quality, vari-angle screen, build quality

**CONS**

Mode lock, multi-controller, number of AF points

**Metering deals with areas of mixed tone with impressive ease**

# Canon EOS 60D

## Does the EOS 50D's replacement live up to its impressive heritage or not make enough significant improvements?

Canon has developed this new model with hints of both the lower 550D and its superior 7D in the mix. Though many of the additions have been welcomed, some have considered its non-metal body and auto features a dumbing down.

### Features

The sensor is the same 18MP APS-C model that features in the 550D, with the low-pass filter from the 7D. The DIGIC 4 processor provides burst shooting at 5.3fps and the ISO offers a 100-6400 range, with an extended ISO 12,800 for extreme low-light work. Autofocus uses nine all-cross type AF points, with f/2.8 sensitivity on the centre point.

Advanced creative modes also feature on the camera – these post-processing options allow you to add creative effects, resize, rate, and even process Raw files.

### Design

The viewfinder offers a 96% coverage while the LCD is 3in with a huge 1,024k-dot resolution and a vari-angle mount. The 60D features Full HD 1080p capture at 30/25/24fps. Video exposure can be controlled in both Auto and full Manual exposure, with autofocus via the AF-on button.

### VITAL STATISTICS

**SENSOR**
18MP
**LENS MOUNT**
EF/EF-S
**IMAGE STABILISATION**
No, lens-based
**MOVIE MODE**
Yes 1080P 30/25/24 fps quicktime MOV
**LCD**
3in 1,024k dot vari-angle
**VIEWFINDER**
Pentaprism
**AF POINTS**
9 all cross-type, f/2.8 centre
**ISO**
100-6400 (12,800 extended)
**METERING**
63-zone iFCL (Evaluative, Partial, Centre-weighted, Spot)
**BURST SPEED**
5.3fps
**WEIGHT**
755g
**DIMENSIONS**
144.5 x 105.8 x 78.6mm

The body is made from aluminium and polycarbonate resin with glass fibre. This has been a bit of a sticking point for EOS users yet it feels very solid and has improved waterproofing.

The mode dial has added a locking button, to stop the dial accidentally moving, but this can slow operation. On the rear the vari-angle LCD screen is very handy for live view, video, and tripod use. Most of the functions are controlled from the multi-directional d-pad; though this is a clever use of space, operation can be a little tricky because of it. The camera feels modern in its design and remains a solid and well-built unit, with only slight nuisances.

**The general layout of the EOS 60D is simple enough to negotiate, especially thanks to the vari-angle screen**

### Image quality

The nine-point AF is fast and accurate, and offers more AF points than most users are ever likely to need. The 63-zone iFCL metering shows its pedigree, performing brilliantly, and only occasionally clipping highlights. The use of SD cards is in part to support the new SDXC high-capacity cards. Write speeds are around 2sec for Raw/ 1sec JPEG. This means at maximum burst of 5.3fps it can shoot 16 Raw, or 105 JPEG images before filling the buffer.

**VERDICT** **For those looking to upgrade from a budget DSLR, the Canon 60D offers a lot for the money. The host of new features are generally to its benefit, especially the vari-angle high-resolution LCD screen and Full HD movies. The 60D is fast, easy to use and produces stunning results.**

**SCORE** Features 19/20 Performance 18/20 Design 18/20 Image quality 19/20 Value 17/20 **91%**

See the Alpha 65 in action

**£789**

◀ The Alpha 65 resembles a reduced Alpha 77

**PROS**

Fast performance, class-topping spec, easy to use

**CONS**

EVF still not perfect, poor battery life

# Sony A65

## Sharing much of the technology found in the Alpha 77, the Alpha 65 looks like it could be a real bargain

Tonal range is superb, with the Auto White Balance erring slightly on the warm side ▼

Both the Alpha 77 and 65 were announced at the same time last year and while the A77 has generated the most headlines, the A65 has been a little overlooked. Is this camera the perfect blend of price and performance? Let's find out…

### Features

The Alpha 65 shares the same 24.3MP APS-C CMOS sensor that's found in the A77. Combine this with the BIONZ image processor that the A65 employs and you have a very broad ISO range from 100 to 16,000. As well as this, there's also Multi frame noise reduction, with the camera automatically taking multiple shots, which are then merged into a single file, allowing you to shoot above the ISO 16,000 ceiling if required.

### Design

The design of the Alpha 65 follows that of the A77, with a sleek, low-slung design that appears squatter than its rivals. While the A77 benefited from a magnesium body, the A65 has an all-plastic body shell. This is in line with its rivals, and with the rubberised grip that coats the sculptured handgrip, it still feels very solid in the hand.

### Performance

Overall the EVF used by the A65 is a success. It still can't quite surpass an optical viewfinder, but it's very close and in day-to-day use you'll cease to notice it's an EVF. The A65's 15-point AF system may not be quite as advanced as the 19-point system in the Alpha 77, but compared to its rivals it more than sticks up for itself.

▼ The bottom hinge makes lower-angle shots simple

### VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 24.3MP APS-C type CMOS |
| **FILE FORMATS** | Raw (ARW), JPEG, Raw + JPEG |
| **SHUTTER SPEEDS** | 30-1/4,000th second, plus Bulb |
| **MAX FLASH SYNC** | 1/160th |
| **IMAGE STABILISATION** | Yes |
| **DUST REDUCTION** | Yes |
| **ISO** | 100-16,000 |
| **EXPOSURE MODES** | Auto, Auto+, P, S, A, M, Scene, Sweep Panorama |
| **METERING SYSTEM** | TTL, 1,200-zone evaluative |
| **EXPOSURE COMP** | -/+3 EV in 1/3 EV steps |
| **WHITE BALANCE** | Auto, 7 preset, Custom |
| **WHITE BAL BRACKET** | Yes |
| **DRIVE MODE** | Single, Continuous (10fps), Self Timer (2 or 10sec), Bracket |
| **LIVE MODE** | Yes |
| **MOVIE MODE** | 1080 (25/50p) HD (AVCHD 2.0) |
| **LCD** | 3in wide, 921k-dot, vari-angle |
| **VIEWFINDER TYPE** | 2.4m-dot 1.09x mag (in 35mm terms) electronic viewfinder |

### Image quality

The Alpha 65's metering performed well, producing well-exposed shots in most conditions. Images display a smooth tonal range and the Auto White Balance performs consistently, delivering pleasing, ever so slightly warm results. The 24.3MP APS-C type CMOS sensor in the Alpha 65 delivers excellent detail and sharpness.

### Value

With an asking price of £789 with an 18-55mm kit lens, it's quite a bit more affordable than the A77 with a similar, but not identical, headline specification and feature set. The A77 has more to offer to the enthusiast photographer, but those looking for a well-spec'd camera at a reasonable price will feel far from short-changed with the A65.

**VERDICT** **The A65 is a great mid-price DSLR with high levels of performance, particularly the fast continuous AF and 10fps burst rate. These are advances that haven't been seen in a camera of this class before. Image quality is superb and the EVF is the best we've seen. Compared to its rivals the A65 dlivers the best blend of image quality, features and performance.**

**SCORE** Features 19/20 Performance 18/20 Design 18/20 Image quality 18/20 Value 18/20 **91%**

## DLSR NIKON D5100

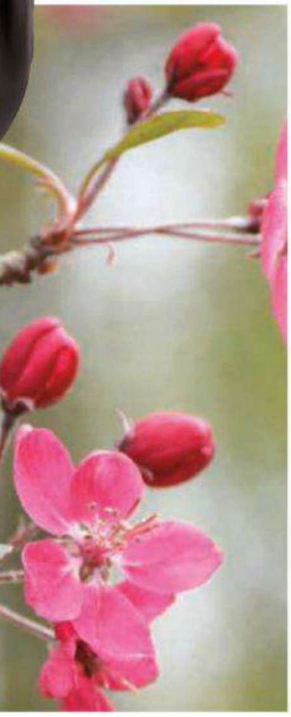
## £780

**PROS**

Good image quality, improved live view mode, responsive AF, impressive movie options

**CONS**

Non-customisable Effects, no AF-point lock, no remote commander



# Nikon D5100

## DSLR but with a twist: Nikon's latest has a vari-angle LCD screen to accompany its top spec and new Effects modes...

The Nikon D5100 includes an Effects mode firmly targetting the more family-orientated user, while a 16.2MP sensor and 11-point AF system ensure top-spec and performance too.

### Features

The D5100 has a number of modes and features that Nikon is keen to shout about. First of all it's got an LCD screen mounted on a bracket for 360° positioning at more unusual angles, and second it has the new Effects mode. Their appeal is leaned more towards the mass market, though the balance of such 'fun' options may cause some more serious photographers to question the camera's main focus. The same 16.2MP APS-C CMOS sensor as found in the D7000 makes its way into the D5100 body alongside the EXPEED 2 image processing engine and the 1080p movie mode also sees the inclusion of 30/25/24fps adjustable frame rates.

### Design

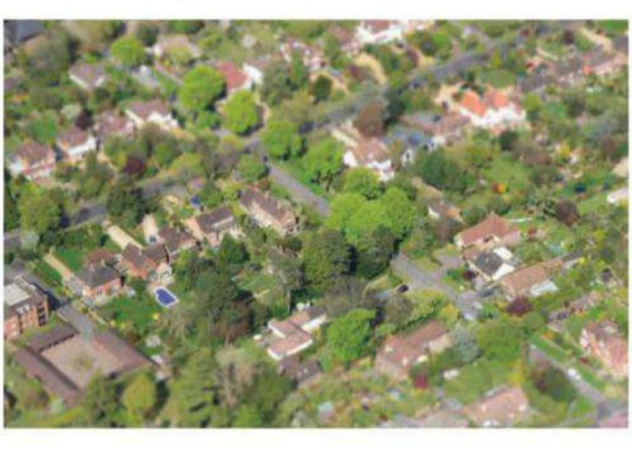
The vari-angle screen renders it impossible for the four or five-button array featured in other Nikon models to be in their usual place, which makes for a busier layout. There's no top LCD panel for reviewing settings, so you'll need to toggle the rear LCD's display on using the 'Info' button.

▲

**In spite of the 16MP sensor there's no evidence of crosstalk**

**The miniature mode is a touch gimicky, trying to ape a tilt/shift lens**

▼

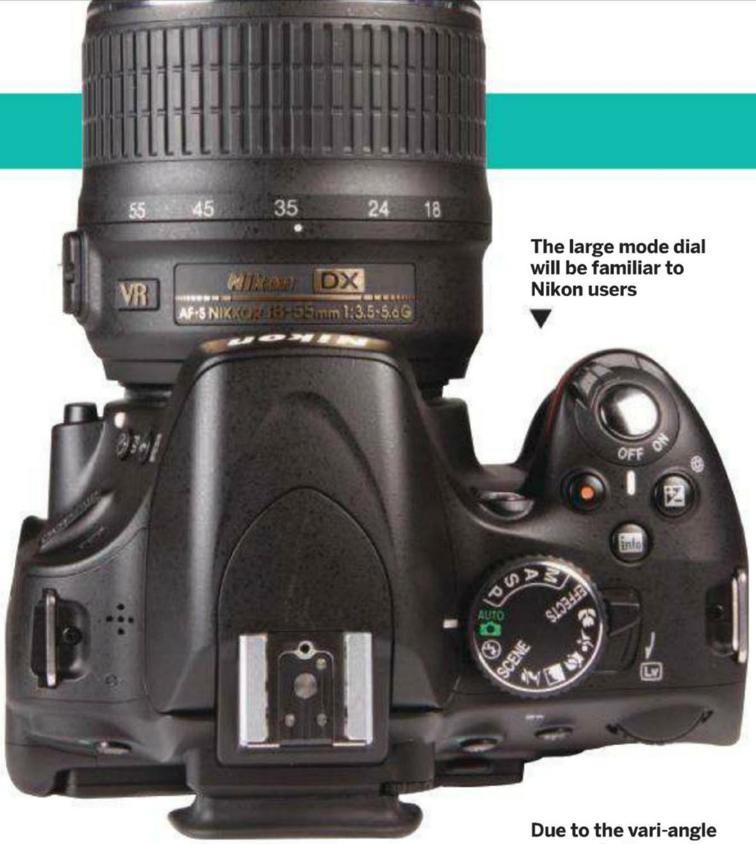


### Performance

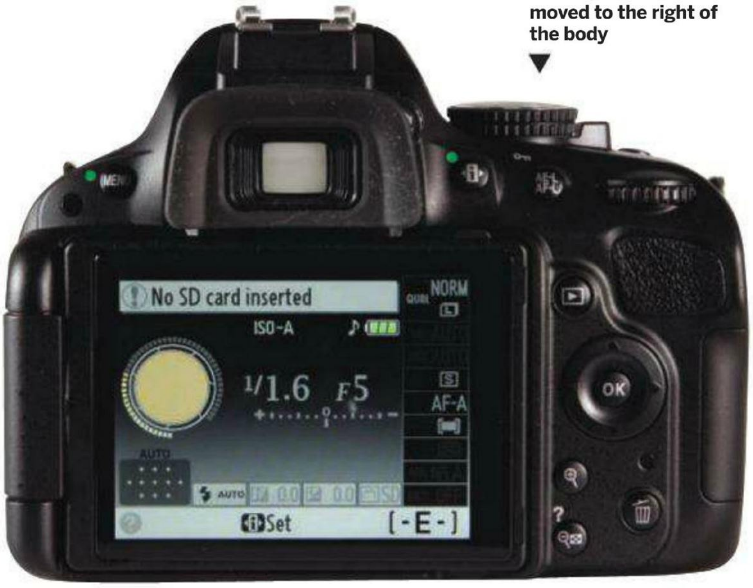
The D5100 is great to use for a variety of tasks. The continuous autofocus is successful and we were pleased with the results from the horizontally (landscape) set AF points that add an extra degree of reach to the system for Wide AF usage too. Flip into live view and focusing isn't nearly as quick although the focusing box can be positioned anywhere.

The new Effects modes are a bit of a mixed bag. When previewing some of the modes in real time on screen, such as Color Sketch (that outlines subjects in a posterised, outlined, cartoon-like form – unlikely to be a common use for many serious photographers), the screen lag can become frustrating.

See the D5100 in action



The large mode dial will be familiar to Nikon users



Due to the vari-angle screen, buttons are moved to the right of the body

While it's possible to use the viewfinder, there are options such as Selective Color whereby making those pin-point selections to isolate colour will require the live view preview. Miniature mode works well for fake tilt-shift effects, and Night Vision (black and white at up to ISO 102,400) is a unique touch. But the fact that an original Raw file cannot be shot in tandem with any of the modes and the overall lack of customisation means these point-and-shoot options are less impressive than they could be. More advanced modes such as the 4fps continuous shooting option are able to snap away at up to 10 frames when in Raw + JPEG mode (using a Panasonic Class 10 Gold Card). Shooting JPEG only and the world is your oyster as it's possible to continually shoot hundreds of frames. It's areas like this where the D5100 outshines the likes of the Canon EOS 600D with its smaller buffer and slightly slower 3.7fps burst.

However, where the 600D excels is by offering a built-in wireless commander for controlling external flashguns – Nikon's D5100 can only do so with the inclusion of the SU-800 commander (sold separately for around £215 or more). Also consider the lack of a Depth of Field Preview button and there are some omissions from Nikon's offering that would have further strengthened its overall appeal for the more demanding user, especially in the light of competition from Canon.

## Image quality

Although the D5100 shares the same 16.2MP CMOS sensor as the D7000, it adopts the 420-pixel RGB metering sensor as found in the D3100. We found the combination of these two to be a more successful pairing than the D7000's 2,016-pixel metering sensor – the latter overexposed in a number of scenarios. The D5100, on the other hand, produces more accurate exposures that are therefore tonally richer and this is particularly noticeable in flatter scenes.

Nikon DSLRs can tend to lean towards the warmer red/yellow cast, but not to an overstated degree. With the D5100 the Auto White Balance system was consistent between shots and different ISO settings, though constant fluorescent studio lights did produce an ever so slight yellow cast. However this is easily adjustable using the manual white balance or white balance bracketing settings and the D5100 isn't primed specifically for studio use.

The 16.2MP sensor avoids being overly populated and images remain detailed. We also used the 70-200mm f/2.8G VRII and 24-120mm f/3.5-5.6 lenses to gauge the full spectrum. The professional-grade lenses delivered exceptional results even at the widest aperture settings. In our studio lab testing the resolved detail on our resolution charts was also very impressive indeed, even utilising only the basic kit lens. Only above ISO 800 is there some breakdown in detail due to image noise, but fine detail is still discernible.

## Value

With a £780 launch price, the D5100's kit lens option is pitched squarely at taking on the Canon 600D. The two models are similar in specification, with particular focus on each of the vari-angle screens and 1080p HD movie modes. However Nikon seems to be playing the more user-accessible and 'fun' hand, given its Effects modes. The 600D on the other hand offers a wireless flash commander built into the body which may appeal to those more advanced users. On the flip side though the Nikon D5100 does offer a wider 11-point AF system, faster live view and a larger-buffer-capacity 4fps burst rate for a similar price. Picking between the two cameras will depend on exactly which feature is most vital to you. There's no doubting the very competitive head-to-head pricing.

## VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 16.2MP APS-C CMOS |
| **FILE FORMAT** | RAW, JPEG |
| **SHUTTER SPEEDS** | 1/4000th – 30sec, plus Bulb |
| **ISO** | 100-6400 |
| **EXPOSURE MODES** | Auto, P, S, A, M, Scene, Effects |
| **WHITE BALANCE** | Auto, 6 preset, manual, fine tune |
| **DRIVE MODE** | Single, Cont., Timer, Remote, Quiet |
| **MOVIE MODE** | 1080p HD |
| **REAR SCREEN** | 3in, 921k-dot, vari-angle LCD |
| **FOCUSING MODES** | AF-S, AF-C; AF-A; MF |
| **AF POINTS** | 11-point (central point cross-type) |
| **DOF PREVIEW** | No |
| **PC SOCKET** | No |
| **CABLE RELEASE** | Yes |
| **BUILT-IN FLASH** | Yes |
| **MEMORY CARD** | SD/SDHC/SDXC |
| **CONNECTIVITY** | HDMI, GPS, USB 2.0, 3.5mm microphone jack |
| **POWER** | Rechargeable Li-ion EN-EL14 battery |
| **DIMENSIONS** | 128 x 97 x 79mm |
| **WEIGHT** | 510g |

**VERDICT**

**Nikon D7000-like quality for less cash can be no bad thing. Add a more advanced live view focusing mode and the D5100 isn't short of its plus points. It's tricky to pick holes but no remote commander, no Depth of Field Preview and an average LCD screen are a few niggles. The Effects modes certainly have a place, but lack a fully-adjustable series of options that would set them apart from the competition. Overall the D5100 is a well-priced and decent-performing piece of kit that delivers great quality images.**

**SCORE** Features 18/20 Performance 18/20 Design 18/20 Image quality 17/20 Value 18/20 **89%**

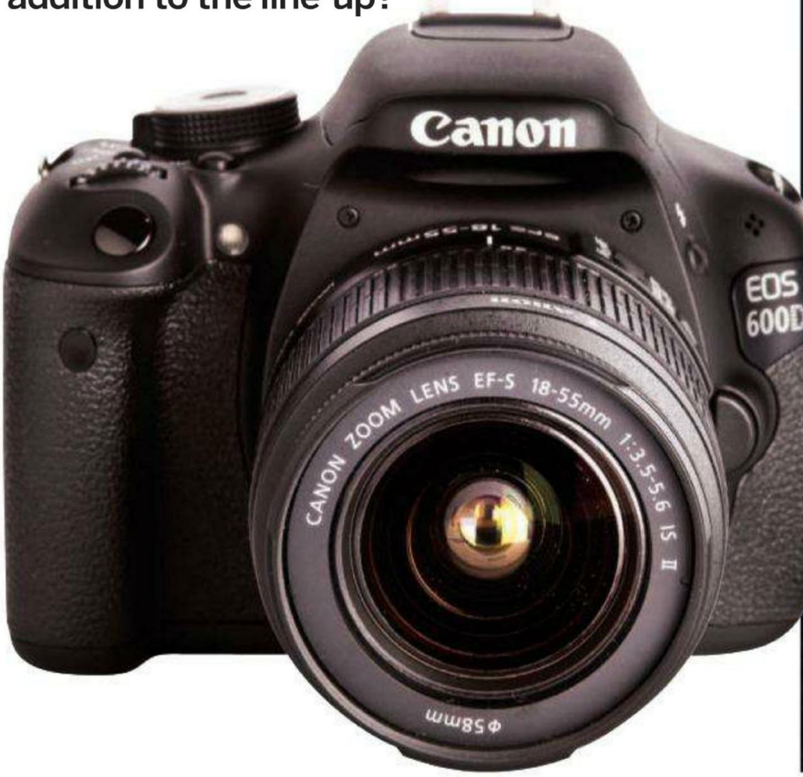
**£749**

# Canon EOS 600D

**PROS**
Excellent image quality, easy to pick up and use

**CONS**
Sluggish AF during live view and video recording

## Can Canon's latest enthusiast DSLR deliver enough new features to make it a worthy addition to the line-up?



▲ **The new 18-55mm kit lens that's bundled with the 600D incorporates a built-in anti-shake system, but with the lack of USM motor means that there can be some audible noises as the lens focuses**

The EOS 550D that the 600D follows (both continue in the Canon DSLR line-up for now) is an incredibly well-rounded camera in its own right, so how much better is the new EOS 600D?

### Features

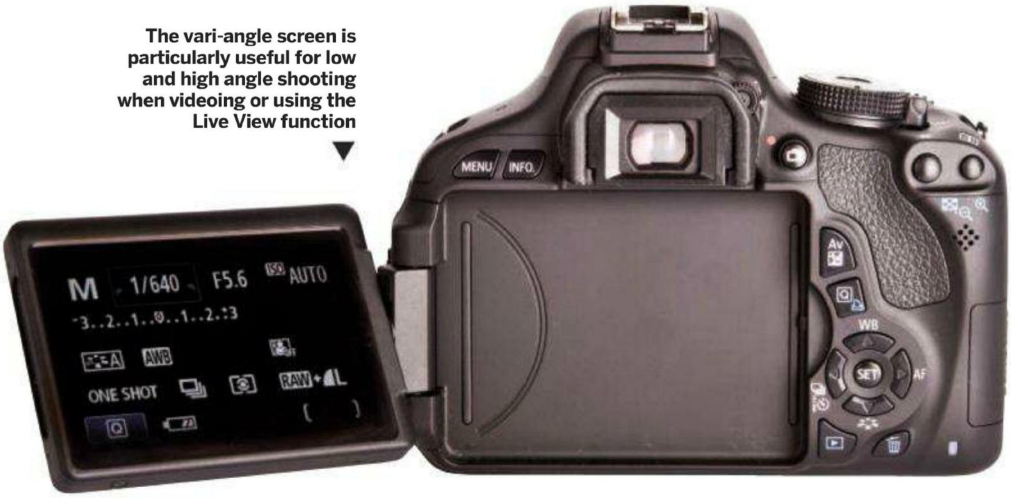
If you've taken a quick glance at the spec of the EOS 600D, you'd be forgiven for thinking that the specs for the 550D have mistakenly been used instead. This starts with the sensor, with the 600D sporting an identical 18MP resolution to the 550D (and the 7D and 60D also). This also means that the ISO range remains the same too, running from 100-6400, while it can be expanded further to an ISO equivalent of 12,800 at its H setting. The DIGIC IV image processor that's used in a host of other Canon DSLRs allows for 14-bit Raw file capture and offers a 3.7fps burst rate (no improvement over the 550D), while the same 63-zone iFCL metering (first seen in the 7D) and nine-point AF system (with a central cross-type point) also feature.

The 3in screen used by the 550D was excellent thanks to the 3:2 aspect ratio used and a screen resolution of 1,040k dots. That remains the same, but it now offers tilt and swivel positioning, just like the 60D's vari-angle screen. It can be swung out from the body by 180° and rotated 270°, allowing it to be positioned for a range of shooting angles.

### Design

From the front, the 600D looks markedly similar to the 550D, with a few subtle aesthetic design tweaks to keep the camera looking fresh. The mode dial looks a lot more high-end, for example, with finer grooves round the dial, while to the right of the lens mount the body has also benefited

**The vari-angle screen is particularly useful for low and high angle shooting when videoing or using the Live View function** ▼



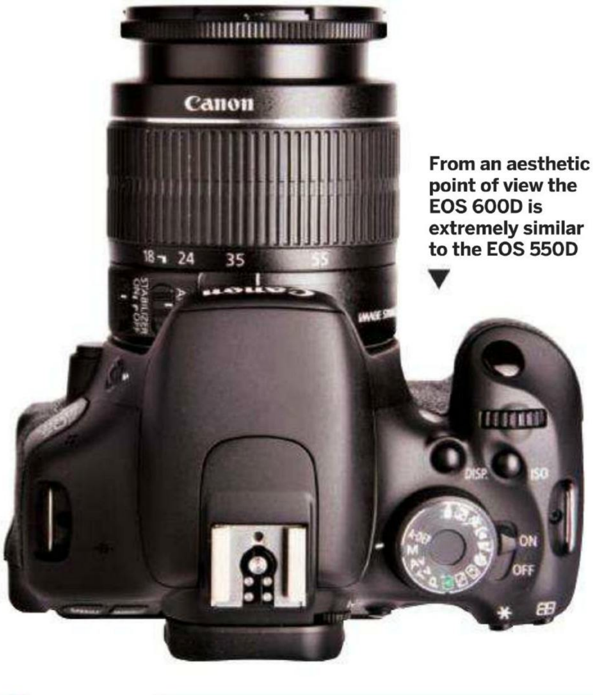
from the addition of a rubberised grip. An Info button, allowing you to check peripheral camera information while shooting, and cycle through shooting info during playback, has replaced the Display button on the rear of the 550D. While there's no denying that the 600D has been put together to a high standard, the smooth, matte exterior does feel quite plasticky. That said, the more well-defined handgrip and thumb rest offer a comfortable grip, while the more pronounced textured rubber finish applied are a welcome progression from the 550D.

## Performance

If you were expecting a shiny new AF system then you'll be disappointed as the 600D sticks with the tried and tested nine-point phase-detection AF system used in previous models. While it's a solid system, it does feel a touch unsophisticated compared to the Sony Alpha A55. The 3:2 aspect ratio screen delivers the goods however. Thanks to it being the same ratio as the sensor, images during playback or during live view fill the screen perfectly so no black borders along the top and bottom of the screen. The 600D's burst rate of 3.7fps isn't going to set any records, losing out to both the Lumix GH2's 5fps and the Alpha A55's impressive 10fps. Set to continuous drive mode, the 600D can capture six Raw files consecutively, while it was able to shoot over 100 JPEG files continuously.

### VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 18MP CMOS |
| **OUTPUT SIZE** | 5184 x3456 |
| **FOCAL LENGTH MAG** | 1.6x |
| **FILE FORMATS** | Raw (14bit), JPEG, Raw & JPEG |
| **SHUTTER SPEEDS** | 60-1/4000th second, plus Bulb |
| **DUST REDUCTION** | EOS integrated cleaning system |
| **ISO** | 100-6400 (12,800 expandable) |
| **METERING SYSTEM** | TTL using 63-zone iFCL system |
| **WHITE BALANCE** | Auto, 7 Custom modes, Custom |
| **WHITE BAL BRACKET** | Yes |
| **DRIVE MODE** | Single, Continuous, Self-timer & Remote L, H, Self Timer |
| **LIVE MODE** | Yes |
| **MOVIE MODE** | 1080p HD |
| **LCD** | 3in, 1,040k-dot TFT LCD |
| **FOCUS MODES** | One Shot, AI Servo, AI Focus, Manual |
| **AF POINTS** | 9 points |
| **MEMORY CARD** | SD/SDHC/SDXC |
| **CONNECTIVITY** | HDMI, USB 2.0, 3.5mm mic jack |
| **POWER** | Rechargeable Li-ion battery |
| **WEIGHT** | 570g |
| **DIMENSIONS** | 133.1 x 99.5 x 79.7mm (WxHxD) |



From an aesthetic point of view the EOS 600D is extremely similar to the EOS 550D ▼

▲ The 63-zone iFCL metering system is a consistent performer, delivering well-exposed images under a range of shooting conditions

## Image quality

Images are well exposed under a range of lighting conditions, meaning you won't have to spend too much time with the exposure compensation button, while there's a smooth tonal gradation evident in the images. Colour reproduction from the 600D is just a little on the punchy side of neutral, delivering a pleasing result. Auto White Balance (AWB) performs very well, though it can be a touch warm indoors.

The 18MP sensor in the 600D is capable of delivering an impressive amount of detail, allowing you plenty of flexibility if it comes to the need to crop the image fairly aggressively. While JPEGs are more than acceptable, they do tend to be a touch softer, becoming more noticeable at higher ISOs as noise control takes prominence, with Raw files allowing you to resolve the most detail.

The 18-55mm kit lens has its weaknesses, tending to be a touch soft in the corners wide-open and struggling to get the optimum sharpness from the sensor. If you want to get the best from the camera, then a higher-quality optic is recommended.

The 600D's .CR2 Raw files can be read using Photoshop CS5 or Elements 9 (you'll need to update to the latest Camera RAW – 6.4, which is still in beta, but will read and allow for conversion), as well as similar programs. There's also Canon's bundled Digital Photo Professional software.

As you'd expect from an unadjusted Raw file, they lack the punch and end results of the output JPEG file, which has a decent level of contrast and sharpness applied to them to deliver attractive final images. Having said that, in order to achieve the best quality from the sensor, Raw conversion is advised.

## Value

At around £749 with the bundled 18-55m kit lens, the 600D isn't treading on the toes too much of its EOS stablemates, sitting neatly between the 550D (at around £599 with the 18-55mm kit lens) and 60D (£899 with the same lens). This also fairly reflects where the 600D sits in the EOS line-up, too, offering a clear progression from the 550D (very similar spec, build and performance, no vari-angle screen), while not offering quite the same durable build and performance as the 60D, though they share a similar specification.

The EOS 600D sits towards the top of the mid-price DSLR sector, though we expect the initial price to drop.

**VERDICT** **The EOS 600D has inherited a lot from existing models. With the 550D still available, you have to ask yourself how desperately you want a vari-angle screen and the other minor additions. While it isn't a massive upgrade, the EOS 600D is still a great camera. Admittedly, the performance can be left a little wanting, but results from the 18-megapixel sensor are great and the polished user interface will allow novice users to grow. It may not feel particularly cutting-edge, but the EOS 600D has been years in the making, evolving into a great camera for the price.**

| SCORE | Features 18/20 | Performance 18/20 | Design 17/20 | Image quality 18/20 | Value 17/20 | 88% |
|---|---|---|---|---|---|---|

**£695**

# Sony A57

## Succeeding the acclaimed Alpha 55, the A57 marries an updated set of specifications with an enthusiast-oriented body

| PROS | CONS |
|---|---|
| Focusing performance, electronic level indicators, excellent movie mode, burst mode | Handful of operational grievances, dated menu system, occasional underexposure |

Physically the Alpha 57 closely resembles the Alpha 55

The Sony Alpha 57 replaces the well-regarded A55 but externally resembles the enthusiast-level A65. It adheres to a similar idea as the A55, but adds a raft of minor improvements across all aspects of the specification set, while also debuting a couple of innovative features, the likes of which we've come to expect from Sony.

### Features

One of these features is Auto Portrait Framing, which crops a captured image of a person to a composition satisfying the rule of thirds. The By Pixel Super Resolution Technology is at the heart of the 2x Clear Image Zoom feature, which is said to double the effective length of a mounted lens while maintaining full resolution. On that subject, the A57 uses the NEX-5N's 16.1MP Exmor R CMOS sensor; though this offers no advantage in resolution over the 16MP sensor of the A55, its partnering with the latest generation BIONZ processor is said to improve image quality.

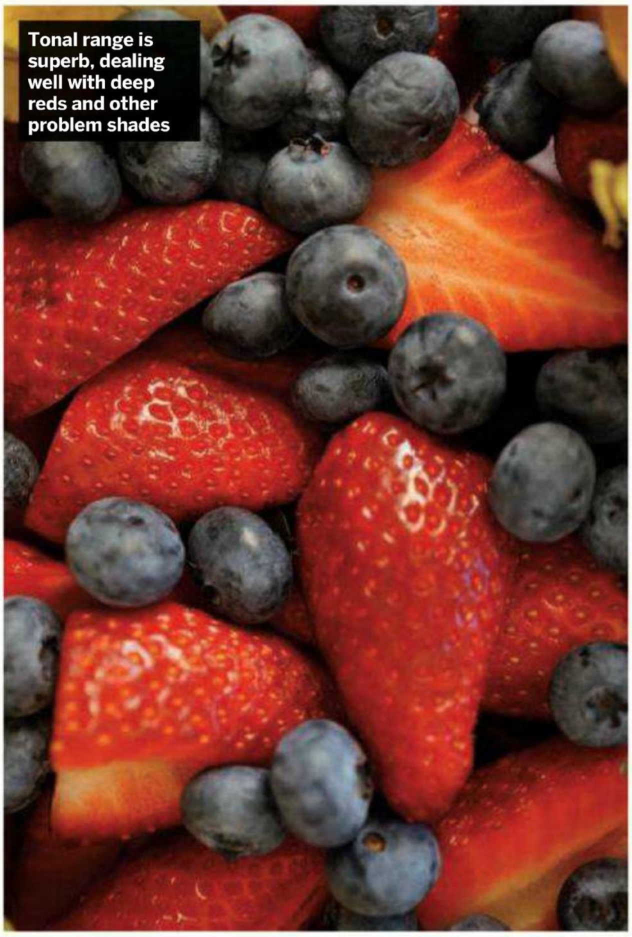
Sony has made additional changes on the inside too. The 15-point AF module, for example, remains from the A55, although it's claimed to benefit from revised Object Tracking AF algorithms to keep a lock on moving subjects. The burst mode has also been increased to offer 8fps as standard, and 10fps in Continuous Priority AE which keeps the aperture constant between frames.

This mode also adds a further 12fps JPEG-only option in conjunction with the camera's Tele Zoom, whereby a 1.4x crop of the centre of the frame is captured (at a reduced resolution) with autofocus adjusted between frames.

### Design

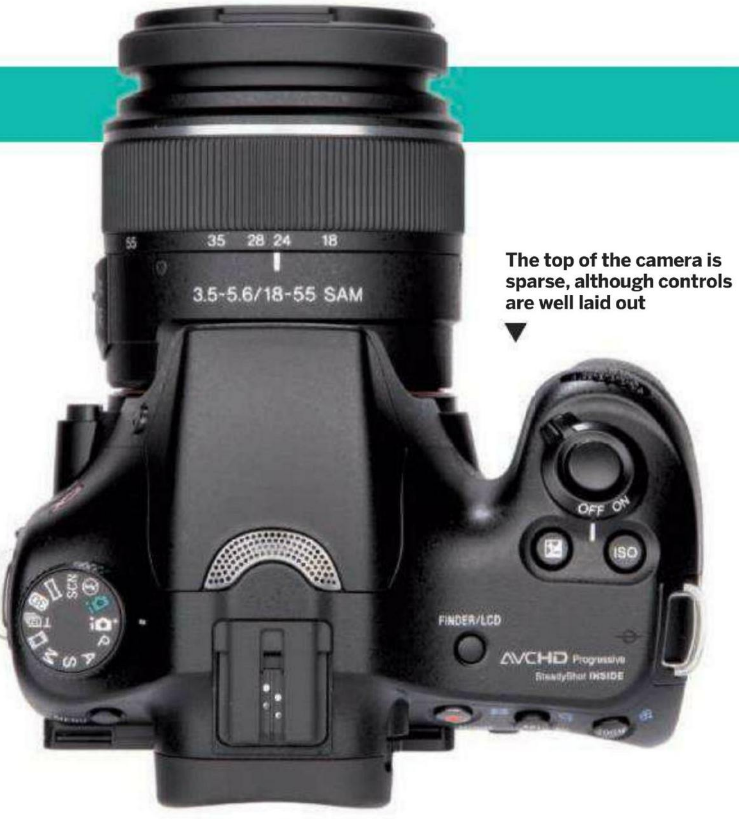
The A57's build quality is more than satisfactory and in line with other cameras around this price point, such as Nikon's D5100 and Canon's EOS 600D. As regards button and control positioning, there's little to dislike: the mode dial is sufficiently tall and its side tactile for easy operation, while the command dial protrudes out far enough to be easily turned. The only gripe here concerns the power collar around the shutter release button, which would benefit from being more distinct, either in size or texture.

All buttons are clearly labelled and aside from the lesser-used '?' control, all press positively into the camera. Digging around the menu reveals that many of these can have their functions customised to taste, which is handy.

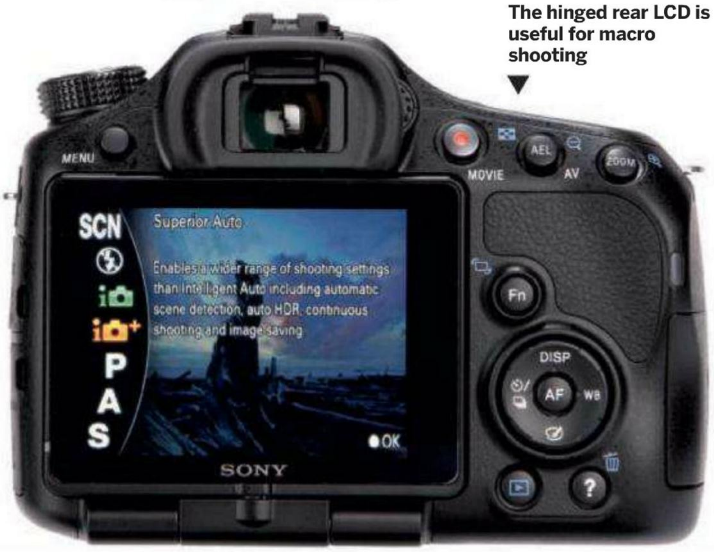


Tonal range is superb, dealing well with deep reds and other problem shades

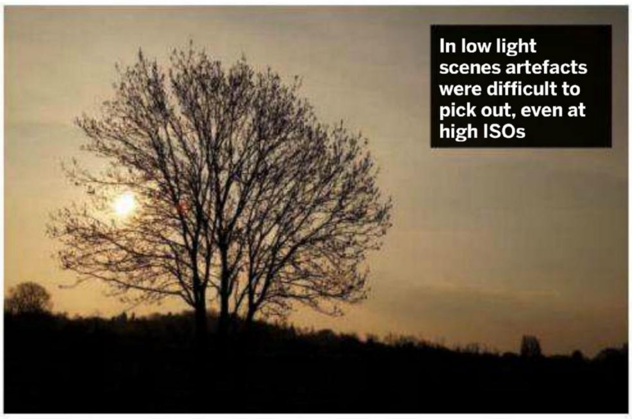
See the Sony A57 in action



The top of the camera is sparse, although controls are well laid out


MENU
MOVIE
AEL
AV
ZOOM
SCN
Superior Auto
Enables a wider range of shooting settings than Intelligent Auto including automatic scene detection, auto HDR, continuous shooting and image saving
P
A
S
OK
SONY
Fn
DISP
AF
WB
?

The hinged rear LCD is useful for macro shooting



In low light scenes artefacts were difficult to pick out, even at high ISOs

## Performance

The main benefit of the SLT technology is that the camera can use phase detection AF regardless of whether the viewfinder or the LCD screen is used. And, with 15 points in the centre of the frame – three of which are cross-type – focus is quickly achieved on most occasions. The concentration of AF points in the centre of the frame, however, means that peripheral areas are left uncovered, meaning the only way to achieve focus on subjects positioned here is by focusing and recomposing.

Once enabled the Auto Portrait Function only requires a subject to be picked out by Face Detection, before the result is cropped and scaled back up to the camera's full pixel count. Sony makes grand claims about the effectiveness of the By Pixel Super Resolution Technology used in this process, and the results show this to be more than just marketing puffery: when the face occupies a significant proportion of the frame, the cropped result is scaled back with surprisingly good results.

Sadly, a handful of issues that were present in previous Alpha models have made their way onto the A57. Should a function not be available when shooting in Raw, the camera will explain this without giving you the immediate option to switch to JPEG. The menu system is also due for a refresh, mainly because the black/orange colour palette makes it difficult to jump to a specific location; this is remedied quite simply with a colour-coded system found in many rival models.

### VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 16.1 megapixels CMOS sensor |
| **FILE FORMAT** | Raw, JPEG, RAW + JPEG |
| **COMPRESSION** | Fine or Standard (JPEG) |
| **ISO RANGE** | 100-16,000 |
| **SHUTTER SPEEDS** | 30 – 1/4000th sec (plus Bulb) |
| **DRIVE MODE** | Single, Continuous, Self-timer, Tele Zoom, Continuous Advance |
| **VIEWFINDER TYPE** | 1.44m-dot EVF |
| **LCD** | 3in, 921,600-dot tilt-angle LCD |
| **LIVE MODE** | Yes |
| **MOVIE MODE** | Yes, 1080p HD capture |
| **FOCUSING MODES** | Single, Auto, Continuous, Manual |
| **AF POINTS** | 15-point system with 3 cross-type sensors |
| **EXPOSURE MODES** | P, A, S, M, iAuto, Auto+, Sweep Panorama, Continuous Advanced Priority AE, Scene |
| **WHITE BALANCE** | Auto, 8 preset, Colour temp, Custom |
| **BUILT-IN FLASH** | Yes, GN10 |
| **MEMORY CARD** | MS Pro Duo, SD, SDHC, SDXC |
| **POWER** | Rechargeable li-ion battery |
| **CONNECTIVITY** | HDMI, USB 2.0 |
| **DIMENSIONS** | 132.1 x 97.5 x 80.7mm |
| **WEIGHT** | 539g |

## Image quality

For the most part metering is sound, though underexposure can be an issue. Those capturing JPEGs may want to leave on the DRO feature, as in such circumstances it helps to lift shadows to a more balanced exposure; otherwise, exposure compensation may be dialed in. In more balanced scenes there's little to fault.

There's also little reason to venture into the white balance presets, as the auto white balance (AWB) usually gets things right. The only instances where colours suffer are in high-ISO JPEG images, largely thanks to the noise-reduction system, which can't be disabled. Those processing Raw files may have better luck removing chroma noise before applying the various colour corrections necessary to bring the image back to life.

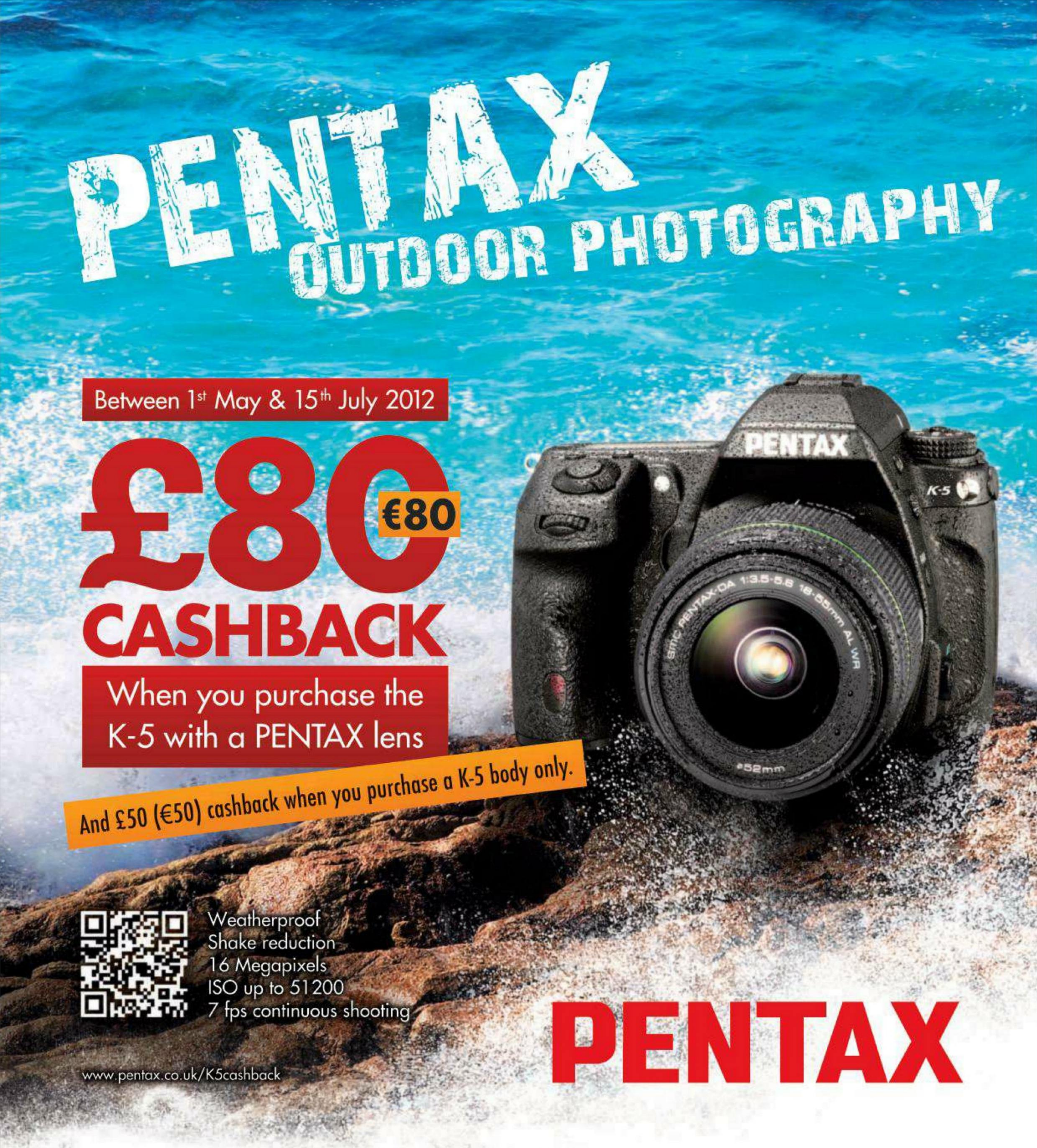
The kit lens is small, lightweight and, for the most part, optically adequate, but against a high-resolution sensor it becomes easier to see its flaws.

## Value

The A57 is currently priced at just under £700 and the closest current model for comparison would be the A65 which is only around £70 dearer. Reflected in this premium is the A65's 24.3MP sensor, 2.36million-dot OLED viewfinder and GPS system which makes the A65 appear as the better value model. Once the A57 has spent as long on the market its price may descend to be more competitive.

**VERDICT** **Aside from its more enthusiast-focused design, the A57 can't be said to be a significant update over the A55. This isn't entirely a bad thing, as it shares many of that camera's positive attributes, from its snappy focusing performance and reliable image quality to the handful of features which make it as enjoyable to use as the camera is capable. Anyone seeking a camera that marries entry-level simplicity with enthusiast control should add it to their shortlist along with the similarly-priced Nikon D5100 and Canon EOS 600D.**

**SCORE** Features 19/20 Performance 19/20 Design 19/20 Image quality 18/20 Value 17/20 **90%**



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See the K-r in action

**£599**

| PROS | CONS |
|---|---|
| Solid build, easy to use, excellent high ISO performance | No AF in video recording |

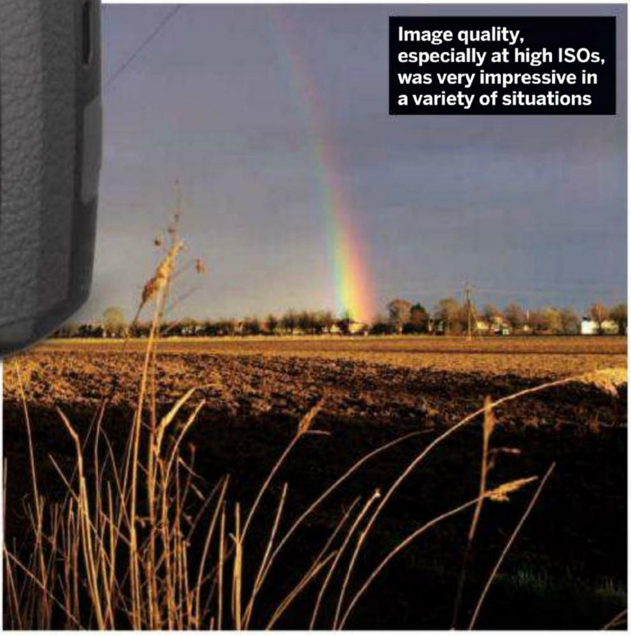


Image quality, especially at high ISOs, was very impressive in a variety of situations

# Pentax K-r

## A beginner DSLR that offers plenty

Launched in the latter half of 2010, the Pentax K-r offers the same 12.4-megapixel CMOS sensor and Pentax PRIME II image processor used in the entry-level K-x.

### Features

The Pentax K-r boasts some pretty impressive headline specs such as the ISO range of 100-25,600, continuous shooting at 6fps and sensor-based Shake Reduction technology. The first thing that strikes you when picking the Pentax K-r up is its reassuring solidity. Constructed from an internal steel frame and outer polycarbonate shell the camera isn't weather-sealed, although there is an internal dust-removal system.

In use and the Pentax K-r's AF performance in good light is as good as instantaneous, and remains quick in less than ideal conditions too. In really poor light conditions the K-r employs a green-tinted AF-assist light to help find focus and prevent any prolonged focus hunting.

### Performance

A fixed 3in, 921k-dot LCD adorns the back of the K-r. It's bright and easily viewable from all angles, but does become much harder to use in bright sunlight.

### Value

Released in the autumn of 2010 with a recommended retail price of £530, the K-r has not really fallen in price, with current street prices being around £400. The K-r does lack the 1080p video capabilities of its rivals – an area where manufacturers are placing a lot of their focus.

**The solid K-r body is well constructed but not weather-sealed**

### VITAL STATISTICS

| | |
|---|---|
| SENSOR | 12.4 megapixels APS-C CCD sensor |
| FILE FORMAT | Raw, JPEG |
| SHUTTER SPEEDS | 1/6000-30secs, bulb |
| ISO | 200-12,800 |
| EXPOSURE MODES | P, A, S, M, Sensitivity, Auto, Scene |
| METERING SYSTEM | Multi, centre-weighted, spot |
| WHITE BALANCE | Auto, manual, 6 custom |
| DRIVE MODE | Single, Continuous, timer |
| LIVE MODE | Yes |
| LCD | 3in, 921k-dot |
| FOCUSING MODES | Single, Cont., Auto, Manual |
| MEMORY CARD | SD, SDHC |
| POWER | Rechargeable li-ion battery |
| CONNECTIVITY | USB 2.0 |
| WEIGHT | 598g (inc battery and card) |
| DIMENSIONS | 125 x 97 x 68mm |

### Image quality

In terms of exposure metering, we found the Pentax K-r to be generally decent, with just an occasional tendency to slightly underexpose. Sharpness does decrease with each rise in ISO however. We had no problems with fringing on high-contrast borders at all. The Pentax K-r offers the option to record Raw files, although JPEG processing leads to sharper images than their Raw counterparts, and JPEG images shot at higher ISOs also benefit from greater noise reduction. Of course, there's much more scope to alter both the sharpness and noise content of Raw image files than their JPEG counterparts. The K-r helpfully allows you to make a Raw image from the last JPEG file when the camera is in review mode, just so long as the data for the recorded image is still in the camera's buffer.

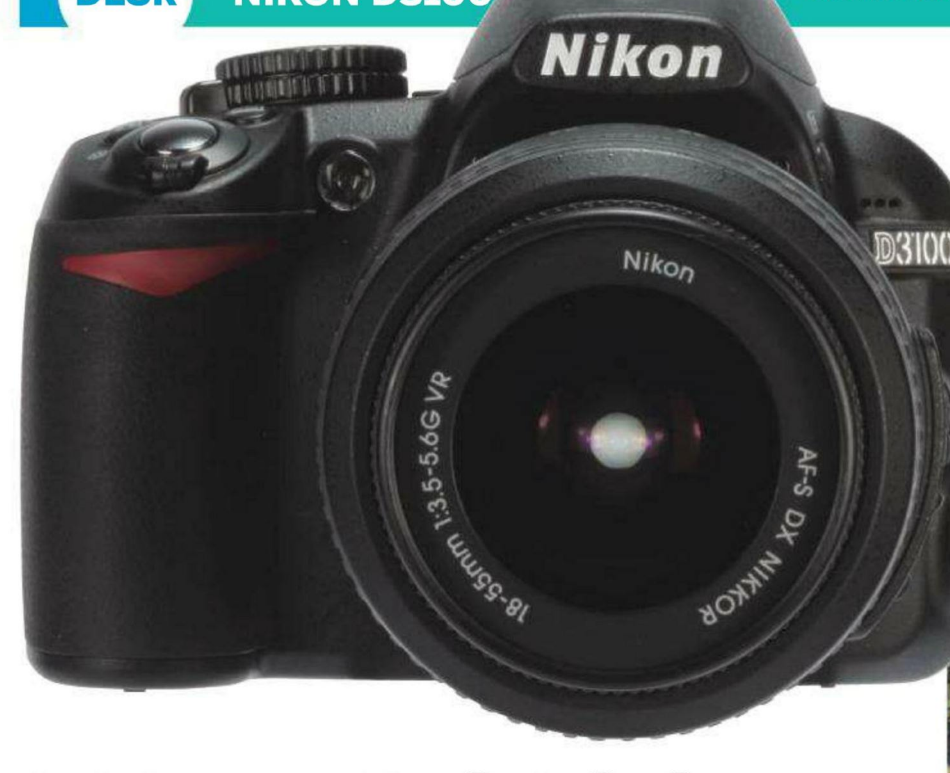
**VERDICT** **It's hard not to like the K-r. Reassuringly solid build and yet surprisingly compact, it sits nicely in the hand and is easy to operate. Video recording is more of an added extra than a standout feature, and we were disappointed that the K-r isn't able to autofocus while recording. But aside from this there is little else to fault about the K-r and plenty to praise.**

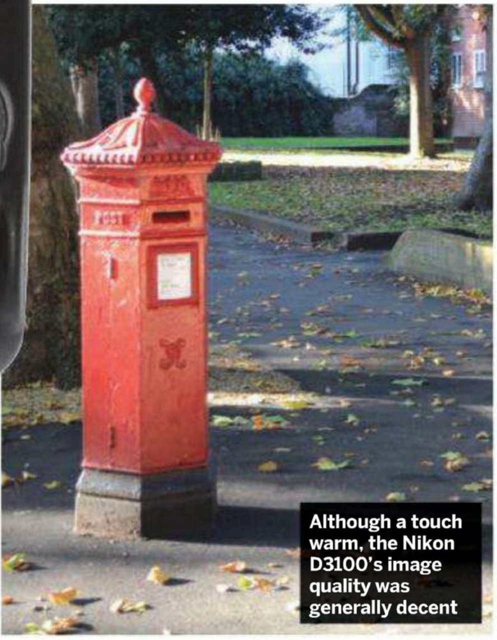
| SCORE | Features | Performance | Design | Image quality | Value | |
|---|---|---|---|---|---|---|
| | 18/20 | 17/20 | 17/20 | 17/20 | 18/20 | 87% |

**DLSR** **NIKON D3100** See the D3100 in action **£580**

**PROS**
Guide mode, featured specification

**CONS**
Price, no DoF preview, no focus switch




Although a touch warm, the Nikon D3100's image quality was generally decent

# Nikon D3100

## Does Nikon's latest revolutionise the entry-level DSLR market?

The Nikon D3100 has an impressive specification and pitches itself as the ideal first-time buyer's DSLR. Does it truly raise the bar of expectation for entry-level models?

### Features

A brand new 14.2MP CMOS sensor is capable of capturing Full HD 1080p movies as well as taking high-res stills. A 3in, 230k-dot LCD screen is supported by an optical viewfinder, and sensitivity is set at ISO 3200. Continuous shooting can shoot at 3fps in any quality setting and the coveted Guide mode makes it easy for first-time users to learn about photography.

**The D3100's Guide mode is a big plus to newcomers** ▼

### VITAL STATISTICS

**SENSOR**
14.2MP CMOS
**FILE FORMATS**
Raw, JPEG, Raw & JPEG
**COMPRESSION**
Basic / Normal / Fine (JPEG)
**SHUTTER SPEEDS**
30 - 1/4000th second, plus Bulb
**ISO**
100-3200
**EXPOSURE MODES**
PSAM, Auto, Guide, Scene
**WHITE BALANCE**
Auto, 6 preset, manual, fine tune
**DRIVE MODE**
Single, cont., timer, quiet
**LIVE MODE**
Yes
**MOVIE MODE**
1080p at 24fps
**LCD**
3in 230k-dot screen
**FOCUSING MODES**
AF-S, AF-A, AF-C, MF
**AF POINTS**
11 focus points
**MEMORY CARD**
SD (HC/XC)
**CONNECTIVITY**
HDMI (c-type port), USB 2.0
**POWER**
Rechargeable Li-ion battery
**WEIGHT**
505g
**DIMENSIONS**
124 x 96 x 74.5mm

### Design

On the top is the main mode dial, and set around this is a quick-access switch to toggle between drive modes. There's no dial to jump between the focus types and although the Fn button is well placed it only permits adjustment of Image Quality, ISO, White Balance or Active D-Lighting. It's a good base to get to learn the company's range and very easy to pick up and use with no fuss.

### Performance

In use the D3100 is a generally reliable performer. The arrangement of AF points is ideal for versatile shooting situations and there's even a 3D tracking mode. The only real downside to this is that the focusing isn't always super-fast.

The LCD screen is a fairly common spec, but is a good tool to work with.

### Image quality

In its standard settings the D3100 will often plump to expose for mid-level detail which can overexpose skies and suchlike. Overall the metering system does a good job and, although shots are generally warm, the Auto White Balance does an otherwise decent job. Although the Raw files are slightly 'flatter' in appearance, they are noticeably more detailed, especially for high ISO and long exposure shots. The grain-like detail is softened slightly in the JPEG images, though this can be detrimental to end quality.

### Value

Although positioned as Nikon's entry DSLR for £500-£580 you'd struggle to do better. Those on a tighter budget may consider the Pentax K-x, with a 4.7fps burst rate, though it's less well specified elsewhere.

**VERDICT** **Although the D3100 may stretch the 'entry-level' price point it exceeds the usual specification too. Small niggles are the lack of Depth of Field preview and the low burst rate, but on the plus side the images are great, Guide mode will help newcomers, and pound for pound there's essentially nothing else (currently) out there to match the specification head on.**

**SCORE** Features 19/20 Performance 18/20 Design 17/20 Image quality 18/20 Value 17/20 **89%**

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Full HD movie clips
Intuitive to use
EXPEED 2 Engine
Live View shooting

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### D3200

24.2 megapixel
EXPEED 3 Engine
Full HD movie clips
Live View shooting
Wireless Capability

**D3200 Body** ............. £559.00 £8.20 P/m
**D3200 18-55 VR Kit** ...... £649.00 £9.52 P/m

### D5100

16.2 megapixel
DX-format
CMOS image sensor
Full HD Movies

**D5100 Body** ............. £509.00 £7.46 P/m
**D5100 18-55 MKII Kit** .... £569.00 £8.34 P/m
**D5100 18-55 VR Kit** ..... £599.00 £8.78 P/m
**D5100 18-55 + 55-200**
**VR Twin Lens Kit** ........ £785.00 £11.51 P/m

### D90

12.3 megapixel
DX format
CMOS image sensor
built-in self-cleaning
sensor unit

**D90 Body** ................. £539.00 £7.90 P/m
**D90 + 18-105mm Lens** .... £689.00 £10.10 P/m

### D7000

16.2 megapixel
CMOS sensor
Full HD 1080p
Video Recording

**D7000 Body** ............. £895.00 £13.13 P/m
**D7000 18-55 VR Kit** ...... £965.00 £14.15 P/m
**D7000 18-105 VR Kit** ..... £1095.00 £16.06 P/m

### D700

12.1 megapixel
CMOS sensor
Large Image
Sensor
Wide Sensitivity
Range
Picture Control System

**D700 Body** ............. £1669.00 £24.48 P/m

### D800 D800E

36.3 MP FX sensor
Autofocus system
Full HD Video
Optical Low Pass

**D800 DSLR Body** ........ £2599.00 £38.13 P/m
**D800E DSLR Body** ....... £2899.00 £42.53 P/m

### D4

16.2 MP FX sensor
Amazing speed
Full HD Video
Shooting Features
User Friendly
Enhanced Connectivity

**D4 DSLR Body** .......... £5289.00 £77.60 P/m

## Nikon Zoom Lenses

Nikon lenses are regarded as among the best optics in the world

| | | |
|---|---|---|
| 10-24mm f3.5-4.5 G AF-S DX Lens | £679.00 | £9.96 P/m |
| 14-24mm f2.8G ED AF-S NIKKOR | £1339.00 | £19.64 P/m |
| 16-35mm f4G ED VR AF-S NIKKOR | £899.00 | £13.19 P/m |
| 16-85mm f3.5-5.6G ED VR AF-S DX | £469.00 | £8.25 P/m |
| 17-55 mm f2.8G ED-IF AF-S DX Zoom | £1113.00 | £16.33 P/m |
| 18-200mm f3.5-5.6 G ED VR II AF-S | £619.00 | £9.08 P/m |
| 24-70mm f2.8G ED AF-S NIKKOR. | £1199.00 | £17.59 P/m |
| 28-300 mm f3.5-5.6G ED VR Nikkor | £709.00 | £10.40 P/m |
| 24-120 mm f4G ED AF-S VR Nikkor | £849.00 | £12.45 P/m |
| 55-300 mm f4.5-5.6G ED DX AF-S VR | £299.00 | £7.89 P/m |
| 55-200 mm f4-5.6 AF-S VR DX Nikkor | £224.00 | ------------ |
| 70-300 mm f4.5-5.6G AF-S VR Nikkor | £449.00 | £7.90 P/m |
| 80-400 mm f4.5-5.6D ED VR AF Nikkor | £1249.00 | £18.32 P/m |
| 200-400mm F4G ED VR II AF-S NIKKOR | £4988.00 | £73.19 P/m |

## Nikon Prime Lenses

Fixed focal length, The ultimate in image quality for your Nikon DSLR

| | | |
|---|---|---|
| 10.5 mm f2.8G ED DX Fisheye | £573.00 | £8.40 P/m |
| 24mm f1.4G AF-S NIKKOR | £1629.00 | £23.90 P/m |
| 35mm f1.4G AF-S | £1489.00 | £21.84 P/m |
| 35mm f1.8G AF-S DXs | £173.00 | ------------ |
| AF-S 50mm f1.4G Lens | £312.00 | £8.24 P/m |
| 50mm f1.8G AF-S NIKKOR | £185.00 | ------------ |
| 85mm f1.8G AF-S NIKKOR | £469.00 | £8.25 P/m |
| 85mm f1.4G AF-S Nikkor | £1299.00 | £19.06 P/m |
| 200mm f2G ED-IF AF-S VR NIKKOR | £3443.00 | £50.52 P/m |
| 300mm F/2.8G AF-S ED VR II Lens | £4059.00 | £59.55 P/m |
| 400mm f2.8G ED VR AF-S NIKKOR | £7040.00 | £103.30 P/m |
| 500mm f4G ED VR AF-S NIKKOR | £6150.00 | £90.24 P/m |
| 600mm f4G ED VR AF-S NIKKOR | £7472.00 | £109.63 P/m |

## Nikon Macro Lenses

Get super close to your subject

| | | |
|---|---|---|
| 40mm f2.8G AF-S DX Micro NIKKOR | £249.00 | ------------ |
| 60 mm f2.8D AF Micro-Nikkor | £354.00 | £8.31 P/m |
| 60mm f2.8G ED AF-S Micro NIKKOR | £408.00 | £8.38 P/m |
| 85mm f3.5G ED VR AF-S DX Micro | £429.00 | £7.55 P/m |
| 105mm f/2.8G AF-S VR Micro-Nikkor | £639.00 | £9.37 P/m |

## Nikon Compact System

### NIKON J1

*Quick, Intelligent Camera System*

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J1 10mm Lens Kit - £489.00 or pay £8.61 P/m
J1 Twin Lens Kit - £598.00 or pay £8.77 P/m

### NIKON V1

*Interchangeable Lens Camera System*

V1 10-30mm Kit - £729.00 or £10.69 P/m
V1 10mm Lens Kit - £779.00 or £11.43 P/m
V1 Twin Lens Kit - £889.00 or £13.04 P/m

## Nikon Teleconverters

**TC-14E II Teleconverter**

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£7.79 P/m

**TC-17E II Teleconverter**

£332.00
£7.79 P/m

**TC-20E II Teleconverter**

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£7.79 P/m

**TC-20E III Teleconverter**

£408.00
£8.38 P/m

## Nikon Speedlight Flash

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| PROS | CONS |
|---|---|
| Fast AF for entry-level model | Build quality, small LCD |

# Canon EOS 1100D

## Is Canon's latest DSLR strong enough to be crowned the king of the entry-level market in the face of competition from old foe Nikon?

The Canon EOS 1100D is the latest entry-level DSLR to come from Canon's stable since the 1000D. Has Canon crammed enough new features into this model?

### Features

Under the 1100D's hood there's an updated 12.2MP CMOS sensor, which offers sensitivity from ISO 100-6400. Elsewhere the camera boasts a nine-point system, a 2.7in, 230k-dot LCD screen and 720p HD video recording too. There's a white balance mode that can be adjusted for magenta/green and blue/amber casts and even auto-bracketing which isn't usually seen on entry-level models.

### Design

Perhaps the 1100D's weakest area is its overall look and feel. The body is a very smooth plastic and the grip is the same finish, plus the latest 18-55mm lens isn't the most fluid of zooms in use. Furthermore the SD card slot shares the battery port at the base of the camera – a pain should you want to swap cards when the camera's mounted on a tripod.

### Performance

The AF system is clearly a winner, just don't expect mind-blowing speed from the basic kit, but we were suitably impressed. Flip the camera into its live view mode, however, and things do slow down but how much this will matter depends on what sort of photographer you are. The 1100D offers Raw and JPEG and we fired off 31 frames at a true 3fps before there was any sign of slowdown on the latter format – certainly not bad going at all.

### VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 12.2MP APS-C CMOS |
| **FILE FORMATS** | JPEG, Raw, Raw & JPEG |
| **SHUTTER SPEEDS** | 30-1/4000 sec |
| **ISO** | 100 - 6400 |
| **EXPOSURE MODES** | Auto, 6 Scene, CA, P, S, A, M, A-DEP |
| **DRIVE MODES** | Single, Continuous, Timer |
| **LIVE MODE** | Yes |
| **MOVIE MODE** | 1280 x 720 (29.97, 25 fps), H.264 |
| **LCD** | 2.7in, 230k-dot |
| **AF POINTS** | 9-point (f/5.6 cross-type at centre) |
| **DOF PREVIEW** | Yes, assigned to SET button |
| **BUILT IN FLASH** | Yes, GN 9.2 |
| **MEMORY CARD** | SD / SDHC / SDXC |
| **CONNECTIVITY** | Remote, USB out, HDMI out |
| **POWER** | Rechargeable Li-ion Battery |
| **WEIGHT** | 495g (body only) |
| **DIMENSIONS** | 129.9 x 99.7 x 77.9mm (WxHxD) |

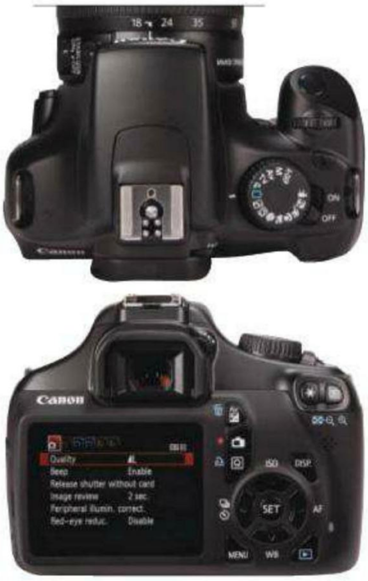

Image quality from the EOS 1100D belies the price tag

### Image quality

The EOS 1100D does a very fine job indeed of exposing scenes. Even bright skies won't entirely dominate, ensuring there's enough detail throughout the final shot. Auto White Balance also performs well, and the abundance of additional options leave you in control of your images. The JPEG processing loses edge detail and begins to show some signs of slight artefacting from as low as ISO 400. Softness can be an issue in some scenes, though a number of close-up macro shots we took had well-resolved sharpness.

### Value

The Canon EOS 1100D costs around £500 and as much as a price-tag some £50 less would be nice, the match of performance and image quality makes the 1100D a very worthy purchase.

**VERDICT** There are very few things that let the 1100D down. Although we're not overly keen on the body's smooth plastic finish, that's pretty much where the moaning stops. The 1100D has a host of shooting options, and image quality is up there with the best that this price range has to offer, making this the best current entry-level DSLR that money can buy.

**SCORE** Features 19/20 Performance 17/20 Design 18/20 Image quality 18/20 Value 17/20 **89%**

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Canon

# EOS 5D Mark III

## Excellence through design

A full-frame 22.3 MP DSLR with 61-point autofocus and 6fps continuous shooting.
Capture high-quality Full HD movies, with manual control over everything from frame rate to audio.

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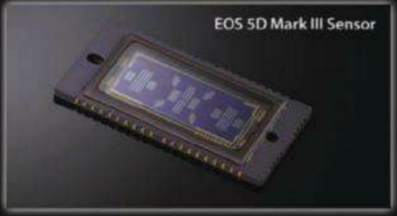
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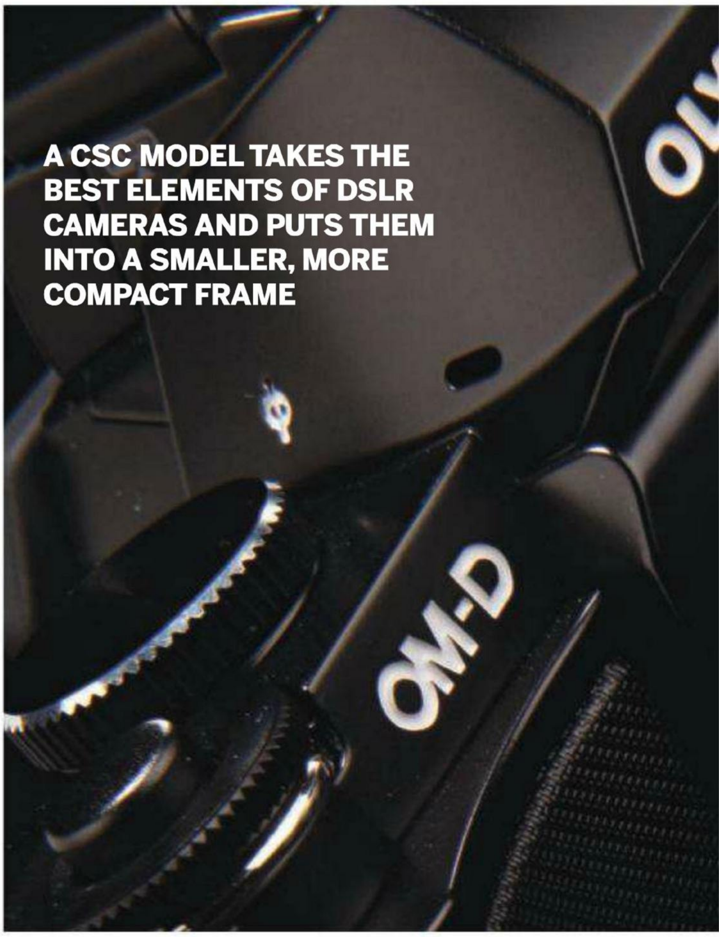
**COMPACT SYSTEM CAMERAS**

# CSC Explained

## What exactly is a Compact System Camera? It's a mix of a compact, DSLR and a few other clever innovations....



**A CSC MODEL TAKES THE BEST ELEMENTS OF DSLR CAMERAS AND PUTS THEM INTO A SMALLER, MORE COMPACT FRAME**

A CSC model takes the best elements of DSLR cameras and puts them into a smaller, more compact frame. Because of the size of the camera the mirror and prism is removed from the DSLR, meaning CSC models need to rely on electronic displays.

The lens mounts are also different, with Olympus and Panasonic opting for Micro Four Thirds and the other manufacturers utilising their own bespoke options. This results in eight different systems to chose from, and therefore makes the selection of the camera body even more important than with a DSLR.

Due to the limited amount of time on the shelves there isn't quite the number of lenses on offer as with DSLRs. Although a number of manufacturers are rapidly populating their portfolio there's still a shortfall in the third-party manufacturers, such as Sigma and Tamron, supplying optics.

In spite of the relatively short amount of time that Compact System Cameras have been available, a fairly wide spread of prices and feature sets have emerged. The most obvious difference between models is aesthetic, as some opt for a DSLR style where other models are more akin to a rangefinder camera.

With a large right-hand grip the likes of the Samsung NX11 and Olympus OM-D will be immediately familiar to DSLR users. Although not a universal feature more DSLR-style models offer a built-in electronic viewfinder.

The rangefinder-style CSC models are closer to a compact camera in terms of operation, being more reliant on the LCD screen in spite of a number of models offering a viewfinder as an added extra. The PEN range from Olympus, as well as Sony's NEX models, are perfect examples of rangefinder-style cameras.

Much like DSLRs a number of different sensor sizes are available, from the APS-C offerings of the Fujifilm X-Pro1 and Sony NEX series to the 4/3rds options of the Panasonic and Olympus models. Both types are the same size as those used in DSLRs, with the 4/3rds size utilised in Olympus's range and APS-C being universal across all others which aren't full frame.

The only models to buck the trend are the Pentax Q, which uses close to a compact camera-sized option, and the Nikon CX models (the J1 and V1) which use an option slightly smaller than the Micro Four Thirds cameras of Olympus and Panasonic. Ricoh's GXR is something of a law unto itself, having the lens and sensor units in an interchangeable package, meaning that both compact and DSLR options can be used.

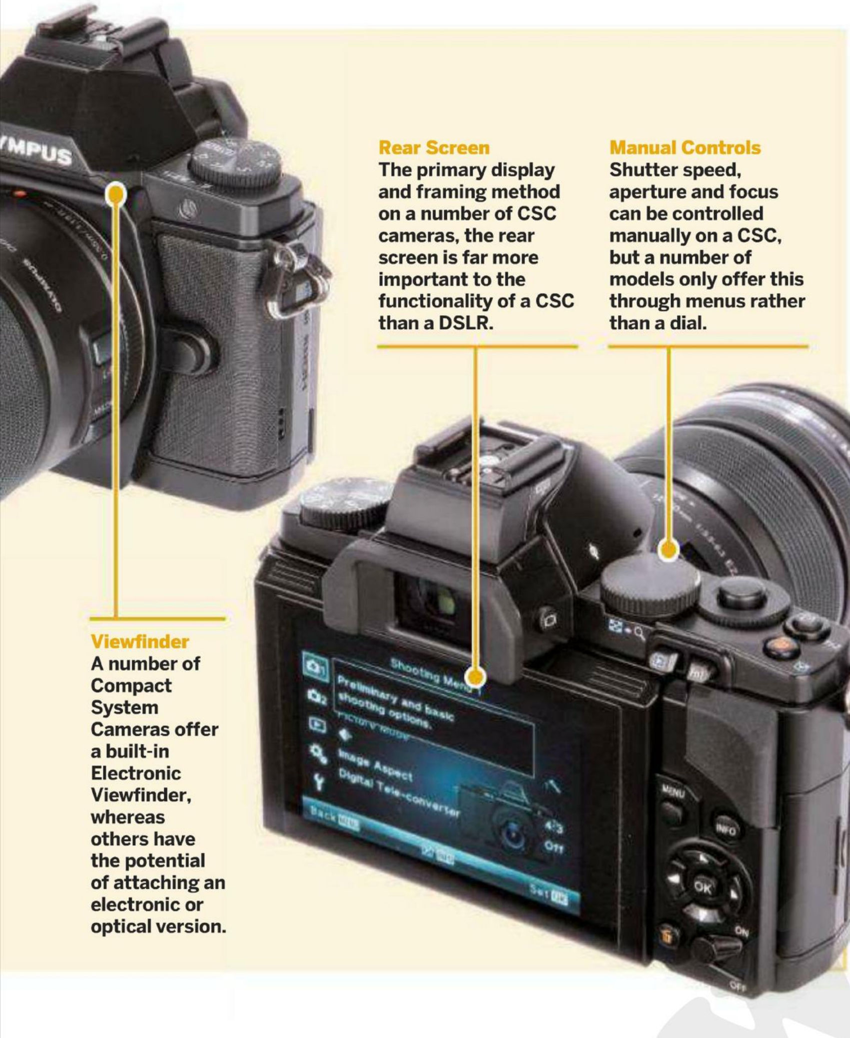
At the lower end of the price scale, at around £500, more of the rangefinder-style models are present in a compact form factor. The likes of the Sony NEX-C3 are simply scaled-down versions of more expensive options, with a few features missing from the NEX-5N.

Below £800 the likes of rotating LCD screens and increased resolutions become commonplace, with more DSLR-style models being present. Expect to see the higher-specced versions of the likes of the Nikon J1 and Olympus E-PM1 with a couple more feature additions.

Heading into the upper echelons of the price range brings the superb Fujifilm X-Pro1, which forgos cutting-edge styling to harken back to a more retro style. Likewise the Olympus OM-D, which does so in a more obvious manner by aping the original film OM series. By aiming these models firmly at the more professional end of the market in direct competition, from a price perspective at least, with high-end APS-C DSLRs these Compact System Cameras are looking to provide aspiring professionals with similar quality in a different form factor.

**Lenses**
**In the same manner as a DSLR, Compact System Cameras offer the functionality of being able to swap lenses by simply removing it from the front of the camera.**

Olympus OM-D
90%
Page 48



**Rear Screen**
The primary display and framing method on a number of CSC cameras, the rear screen is far more important to the functionality of a CSC than a DSLR.

**Manual Controls**
Shutter speed, aperture and focus can be controlled manually on a CSC, but a number of models only offer this through menus rather than a dial.

**Viewfinder**
A number of Compact System Cameras offer a built-in Electronic Viewfinder, whereas others have the potential of attaching an electronic or optical version.

## CSC Checklist

### 1 Choose your mount

In exactly the manner as DSLRs have different mounts depending on the manufacturer, CSCs differ as well, although Micro Four Thirds is shared across Olympus and Panasonic. As there aren't many lenses available for any of the systems as yet (compared to DSLRs), it doesn't make as huge an impact on the versatility of the camera.

### 2 Which design?

Because there's no mirror to dictate an amount of the design of the CSC, as there is in a DSLR, design differs wildly. From the rangefinder-style Olympus PEN series to the DSLR-like Samsung NX11 there are a huge number of shapes and sizes to select. Try handling a few types to see how they sit in your hand.

### 3 Set a budget

A decent Compact System Camera can cost as little as £300, especially when slightly older models are involved. The extra cost brings about the likes of vari-angle screens and a sturdier build, and sensors can also take a leap in resolution. At the more expensive end, which is around £1,000, cameras such as the Fuji X-Pro1 appear which have a more professional appeal but still maintain the smaller form factor.

### 4 Check your features

Unlike DSLRs there aren't quite the same differentiations in the intentions of the cameras, as the models differ more subtly between price ranges. HD movie recording is standard, but the likes of sensor size and burst rate can differ. Don't expect the physical size to exceed pocketable, though. Vari-angle screens, a metallic body and a built-in EVF are extras to look out for, and be aware that some models come without a built-in flash.

### 5 Choose a kit

The lens supplied with the camera may be a short zoom or a wideangle fixed focal length lens. Both have their benefits, such as versatility versus ultimate image quality, so be sure to decide which type you'd prefer.

### 6 Get a memory card

Once again the memory card doesn't come in the box, and as the file sizes will be similar to those produced by a DSLR a 4GB should be considered a minimum.

### 7 Check your accessories

If you're intending on getting a flash, viewfinder or any other specific accessories there are often kits available to save you an amount of cash. As the majority of CSC systems have only been available for a few years there aren't third-party alternatives available, so you'll have to rely on the manufacturer to supply you with those much-needed extras.

£1429

# Fujifilm X-Pro1

## Raising the bar of imaging possibilities: Fujifilm's latest interchangeable-lens rangefinder looks to impress

| PROS | CONS |
|---|---|
| Astounding image quality, hybrid viewfinder great in use, HD LCD screen, expansive 49-point AF array | AF a little slow, battery life should be better, only three launch lenses |

Model: Adriana from www.missionmodels.co.uk

▲ **All three of the X-Pro1 lenses display exemplary detail, especially the 60mm macro lens**

Fujifilm's X-Pro1 is a rangefinder-meets-Compact-System-Camera built in a retro style, coupled with an adapted hybrid viewfinder as found in the X100 and – and this is the big claim – a brand new sensor technology said to outperform full-frame DSLR sensors. Does it deliver?

### Features

The X-Pro1's brand new 16MP, APS-C size sensor uses a clever new colour array to remove the need for an anti-aliasing filter, which in turn should deliver sharper results than conventional sensors.

At launch there are three prime lenses available – an 18mm (27mm equiv) f/2, a 35mm (53mm equiv.) f/1.4, and a 60mm (91mm equiv.) f/2.4 macro. Fujifilm has declared that there will be more lenses in the not too distant future, including an 18-72mm f/4.0 zoom that's due before the end of 2012.

The hybrid viewfinder marries together the best of optical and electronic technologies in a way that no other manufacturer has managed. This includes a larger-than-100% optical viewfinder, with an electronic viewfinder overlay to present crop marks and other shooting information, or an electronic-only display that can be used with a 100% field of view instead.

On the rear of the camera there's a 3in LCD screen with a huge 1,230k-dot resolution. When pared down to actual pixels this is a 3:2 ratio, 1280x960 pixel screen making the Fujifilm screen the highest resolution on any consumer camera to date. Able to shoot from ISO 200 to 6400 as standard (100-25,600 extended), or capture 1080p movie clips at 24fps, the X-Pro1 certainly has plenty of premium features.

### Design

The X-Pro1's bold yet understated design makes it look like a camera from years gone by, yet it's still elegant and contemporary.

The camera's magnesium top and bottom are painted in a black finish that, while it looks the part, isn't as hardy as it should be – after just a couple of days some of the paint was coming off due to knocking against other metal parts in a camera bag. To avoid this you'll want to invest in the leather case and get lens pouches, or compartmentalise your bag.

As the camera is a rangefinder, the optical viewfinder doesn't see exactly what the lens sees (known as parallax error). However, the Hybrid Multi Viewfinder has a clever way of part-solving this. When using the electronic

**The X-Pro1 is laid out in a similar manner to a rangefinder, with the ISO control taking a prominent position** ▼

The APS-C sensor size makes shallow depth of field shots easily achievable

overlay in the optical viewfinder, the camera will calculate the focus distance and adjust the position of the crop marks accordingly. However, framing isn't exact on account of the 90% field of view crop marks.

The three launch lenses do not feature leaf shutters as per the X100's lens. Instead a standard focal-plane shutter limits flash sync to 1/180th second.

## Performance

In use the X-Pro1 is decent, though the autofocus system has advantages and disadvantages. The 49-point array has a wide spread that covers the majority of the frame, a single AF-point can be adjusted between five different sizes and located to anywhere within this array and accessing the AF modes is quick and easy. However it's the speed that lacks as although the X-Pro1 isn't slow, it's just not as fast as equivalent models from Nikon, Panasonic or Olympus.

Battery life lasts for around 300 shots per charge – similar to that of other Compact System Cameras on the market, and nowhere near many pro-spec DSLR cameras. This is quite a shame as it doesn't sit in line with the X-Pro1's 'Pro' name.

## Image quality

The 256-area metering system includes Multi, Spot and Average metering modes. Exposures are well considered, and although frames did need a boost of +0.7-1EV to bring out foreground detail, this was on account of unusual scene composition rather than the fault of the camera.

If you've used Fuji colour film in the past, then you'll be pleased with the X-Pro1's in-camera options which inlcudes the default Provia/Standard, Velvia for vivid shots, Astia for 'soft' portraits and Pro Neg S and Pro Neg H. If you're unsure which to use, then you can set the X-Pro1 to bracket the film modes, saving different versions of the same shot. There are also a handful of Black & White settings, including standard, Sepia toned or even individual red/green/yellow filters for different contrast.

Here's where the X-Pro1 really gets to show off. The level of detail in shots is substantial when using any of the three lenses – particularly the 60mm macro. This can be attributed to the X-Trans CMOS design and no anti-aliasing filter in the design.

But just how good are we talking here? Some sample shots have incredible crispness and the test chart images we recorded in the lab delivered results that, in conjunction with these lenses, make it among the best APS-C sensors we've seen.

## VITAL STATISTICS

**SENSOR**
23.6 x 15.6mm (APS-C) X-Trans CMOS with primary colour filter

**FOCAL LENGTH MAG**
1.5x

**FILE FORMATS**
JPEG, Raw (RAF), Raw + JPEG, MOV (H.264 compression) movies

**SHUTTER SPEEDS**
30sec – 1/4000th sec

**IMAGE STABILISATION**
No

**ISO**
200-6400; 100-25,600 ext

**EXPOSURE MODES**
PASM

**METERING SYSTEM**
TTL 256-zones metering, Multi / Spot / Average

**EXPOSURE COMP**
-2.0 EV - +2.0 EV, inclement with 1/3 EV step

**DRIVE MODE**
3fps to 6 frames max; single, continuous, self-timer (2 or 10sec)

**MOVIE MODE**
1080p at 24fps (H.264, MOV)

**LCD**
3in, 1,230k-do , 100% coverage

**VIEWFINDER TYPE**
Hybrid Multi Viewfinder; Reverse Galilean viewfinder with electronic bright frame display. OVF: 0.37x magnification or 0.6x mag with greater-than-100% field of view. However, EVF overlay in OVF offers 90% fov (approx) crop marks. EVF only: 0.47in, 1.44m-dot LCD, 100% fov

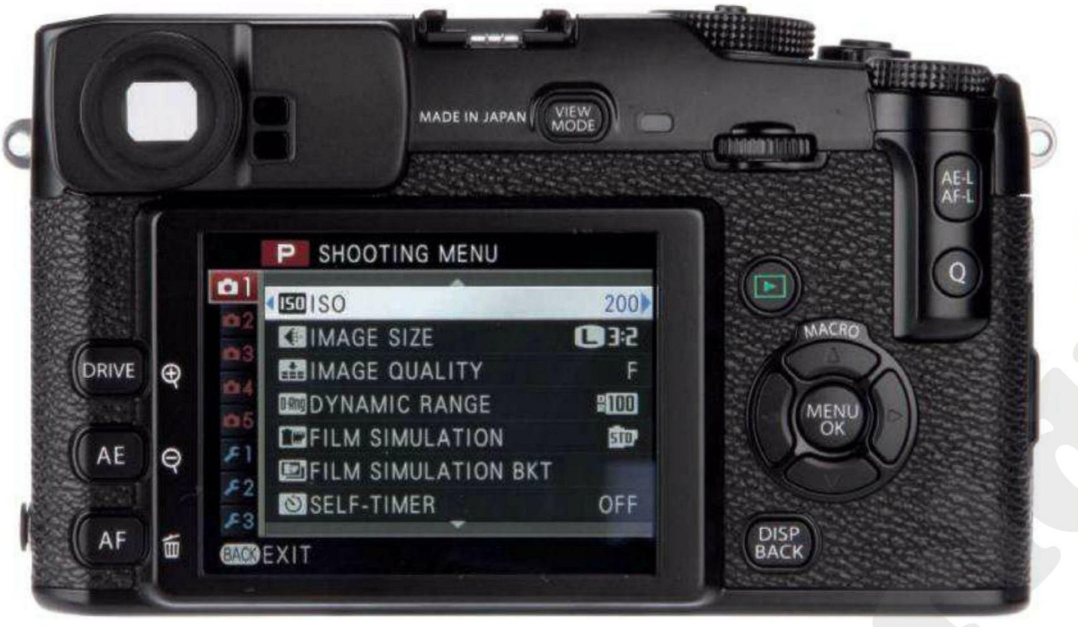
**WEIGHT**
450g (body, inc. battery & card)

**DIMENSIONS**
139.5 (W) x 81.8 (H) x 42.5mm (D)

## Value

When we first saw the X-Pro1 we anticipated a lower price point than its £1,429 body-only retail price. Though this may sound expensive – and each of the lenses cost between £500 and £600 – the final images, overall build quality and unique technologies more than make up its worth. It's cheaper than a full-frame DSLR, outpaces the Sigma SD1 camera in performance and price, and will give Leica a run for its money.

Speaking of which, a Leica adaptor is also due to launch. Full details aren't available yet, but we anticipate that Leica glass coupled with the X-Trans CMOS sensor will be most impressive.



▲ The 1,230k-dot LCD screen is superbly detailed

**VERDICT** The X-Pro1 is a staggering camera. It's not going to suit all tastes but does put digital rangefinders on the map. Images are exceptional, delivering on the claims that it can match up to existing full-frame sensors' abilities (in many, though not all respects). The hybrid multi viewfinder is also a joy to use and a genuine unique feature to Fujifilm – though adjusting for the parallax and 90% field of view EVF crop marks can take a little getting used to. There are downsides though: the focus speed isn't great and battery life ought to be longer. Add great build quality, decent manual focus control, an exceptional HD-quality LCD screen and there's little more to ask for.

**SCORE** Features 19/20 Performance 19/20 Design 16/20 Image quality 20/20 Value 18/20 **92%**

£1129

**PROS**

OLED viewfinder, high-res images, array of controls, built-in flash, wireless flash control

**CONS**

Control placement, low-light AF, slower AF than some CSC competitors, limited battery life

▲ **Mixed lighting in this low-light shot still packs in enough detail at the camera's ISO 3200 setting**

# Sony NEX-7

## High-stakes Compact System Camera: we test the world's highest-resolution CSC

There's long been talk of a high-end Compact System Camera (CSC) to attract a more demanding user base to the 'miniaturised' market sector. Does Sony's latest 24.3-megapixel marvel fit the bill and pave the way to CSC greatness?

### Features

The NEX-7's feature set is well beyond the competition, making it not only the most advanced but also the priciest CSC model.

Headline features include a 10fps burst mode, ISO 100-16,000 sensitivity, a 3in LCD screen mounted on a tilt-angle bracket and a built-in OLED electronic viewfinder (EVF).

With an APS-C sized sensor sporting some 24.3MP the camera has a huge resolution and is able to capture 1080p HD movies too.

Of course, as a CSC model, the NEX-7's mirrorless design makes it a far smaller camera than its SLT or DSLR cousins.

As for flash functionality, the NEX-7 ditches the 'Smart Accessory Terminal' that other current NEX models have, and instead opts for a built-in flash (GN 6; a button on the rear activates it) alongside a Sony/Minolta standard hotshoe to add a more powerful flash should you wish.

### Design

The NEX-7 is, we have to say, a curious-looking beast. This is in part due to the NEX-7 including two blank rotational wheels to the top right of the camera's rear rather than any majorly odd design quirks.

The dials look a little odd, though isn't a problem in use as the position of your thumb sits naturally towards them. The one big problem we did find was that the control wheel closest to the camera's outer edge would frequently get knocked and then shift the exposure compensation by 0.3-0.7EV in either Program, Aperture Priority or Shutter Priority modes. While the NEX-7 offers a lot of button customisation it's not possible to deactivate these control wheels – so keep a close eye on the display.

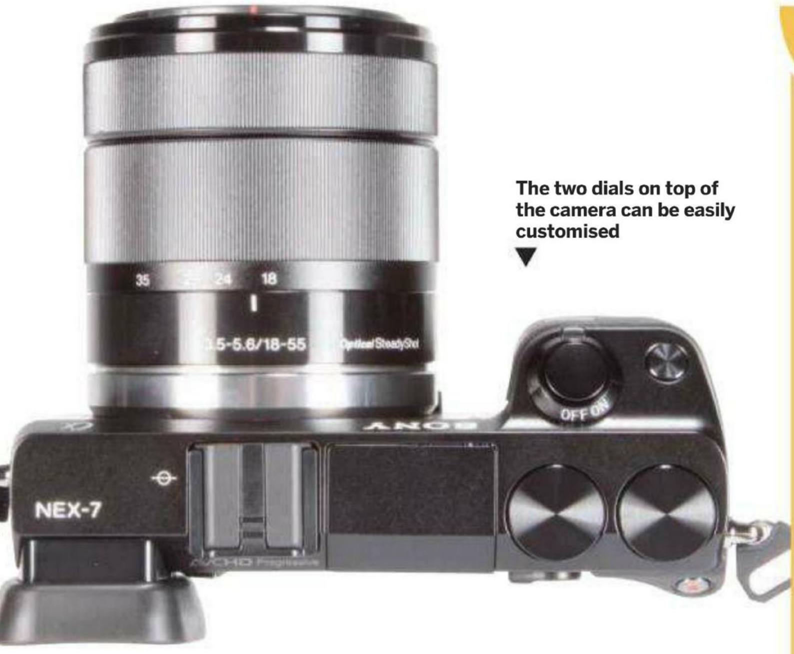
But why the NEX-7 has no physical mode dial is one design decision that's beyond us. A camera at this level that demands menu digging to shift between manual controls has missed part of its very purpose.

### Performance

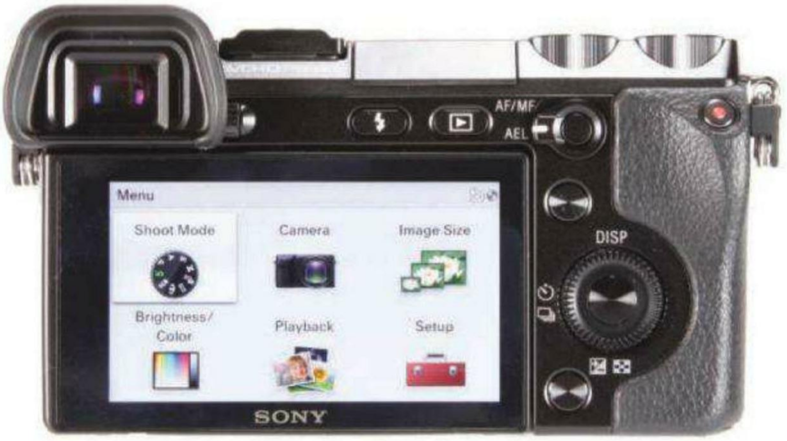
In use the NEX-7 has some features that separate it from other CSCs but equally doesn't feel as advanced as its price tag would suggest. For example: the inclusion of an AF/MF/AEL switch on the rear makes the camera all the more DSLR-like to use, and yet when the autofocus system is put to use it's no more advanced than the lower-range NEX-5N. That's not to say the NEX-7 has a bad AF system, but it's not as quick or accurate as the Nikon, Olympus or Panasonic systems.

The AF's biggest enemy, however, is low light. Dim conditions, despite the inclusion of an AF-illuminator lamp, did throw the AF system off kilter on a number of occasions. The Flexible Spot AF, even when placed at the peak

See the NEX-7 in action



The two dials on top of the camera can be easily customised ▼



## VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 24.3MP APS-C type CMOS |
| **FILE FORMATS** | Raw (ARW), JPEG, Raw + JPEG |
| **COMPRESSION** | Extra Fine, Fine & Standard |
| **SHUTTER SPEEDS** | 30-1/8000th second, plus Bulb |
| **ISO** | 100-16,000 |
| **EXPOSURE MODES** | Auto, Auto+, P, S, A, M, Scene |
| **METERING SYSTEM** | TTL, 1,200-zone evaluative |
| **WHITE BALANCE** | Auto, 6 Custom Modes, Custom |
| **DRIVE MODE** | Single, Continuous, Timer, Bracket |
| **LIVE MODE** | Yes |
| **MOVIE MODE** | 1080 (25/50p) HD video |
| **LCD** | 3in wide 921k-dot vari-angle LCD |
| **VIEWFINDER TYPE** | 2.4m-dot 1.09x mag EVF |
| **FOCUSING MODES** | Single-shot, Automatic, Continuous |
| **AF POINTS** | 19 selectable points |
| **BUILT IN FLASH** | Yes, GN12 |
| **MEMORY CARD** | SD/SDHC/SDXC & Memory Stick PRO Duo/PRO-HG Duo |
| **CONNECTIVITY** | USB 2.0 & HDMI, Flash, Mic |
| **POWER** | Li-ion battery |
| **WEIGHT** | 653g |
| **DIMENSIONS** | 142.6 x 104 x 80.9mm |

of contrast on screen, wouldn't always acquire focus. When set to Multi AF the camera would often show a large green square around the majority of the screen rather than asserting any of its individual focus areas, suggesting a lack of sensitivity to low or subtle contrast.

The NEX-7 also offers a stable of manual focus options too, including manual focus assist that zooms in on screen and a new focus assist function called 'Peaking Level' that shows the in-focus areas on screen as highlights.

The 2.4m-dot EVF is a direct port from the Alpha SLT-A77 and it's no ordinary viewfinder. We're yet to see an EVF that's better. Coverage is 100% and with a magnification of 1.09x, it feels far from tunnel-like.

Battery life, too, relies on the same battery as found in the NEX-C3 and NEX-5N models. But the NEX-7's inclusion of both viewfinder and flash mean the 335 shots per charge is almost some 100 fewer frames than the lower-spec NEX models, and heavy use will drain the battery in double-fast time.

### Image quality

The NEX-7 uses a 1,200-zone evaluative metering system, with a choice of either Multi-segment, Centre-weighted or Spot metering modes. These perform well, creating accurate exposures, though assessment on screen can be tricky due to its high contrast. Images display a smooth tonal range, plus there's the D-Range Optimiser (DRO) to rescue detail in the highlights and shadows. The NEX-7's AWB (Auto White Balance) system was consistent, delivering pleasing results.

Sharpness is one area where the Sony NEX series can fall into difficulties. With the large sensor size images are susceptible to softness at the corners at wideangle settings. The 16mm lens, for example, exhibits notable barrel distortion that results in a sharpness fall-off towards images' edges. There is in-camera Distortion Correction for JPEG shots but this is at the further expense of sharpness.

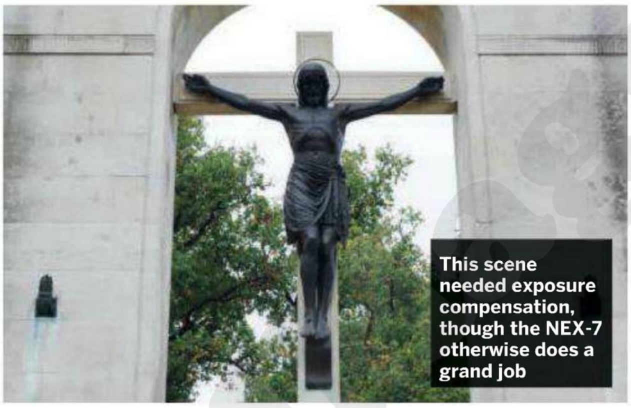
More advanced in-camera features such as distortion, shading and chromatic aberration correction are available for each different E-mount lens, though these can only either be left to 'Auto' or switched off.

Centre frame, however, and the NEX-7's shots are rather special. Low ISO shots are packed full of detail – more than any other CSC out there.

### Value

Consider the NEX-7's bigger brother SLT, the Alpha 77, and there's little to separate the two models in terms of features. The SLT will set you back some £1,150 body-only (it's £1,669 with the 16-50mm lens) while the NEX-7 demands £999 without a lens (£1,129 with the 18-55mm zoom). The A77's extra £150 outlay does offer a better focusing system, continuous autofocus in burst mode and weather-sealing.

The Sony NEX-7 is the first CSC to retail for more than £1,000, beating even the Olympus E-P3 by a substantial sum. And yet the NEX-7 isn't comparable to any of the lower-spec CSC models out there. It's a proposition like no other and, save for a few design misgivings, there's plenty here for the cash.



This scene needed exposure compensation, though the NEX-7 otherwise does a grand job

**VERDICT** **The Sony NEX-7's design is a mixed bag: the variety of controls is great yet the lack of a mode dial and awkward placement of some controls does let it down. The camera's OLED viewfinder, as pulled from the Alpha 77, is a superb bit of kit and the best you could hope for. Image quality is great, yet the ultra-high-resolution sensor does have its limits. This high-priced model does find its limits yet a great mix of features and high-resolution image quality make it an impressive camera.**

| SCORE | Features 19/20 | Performance 17/20 | Design 17/20 | Image quality 18/20 | Value 17/20 | 88% |
|---|---|---|---|---|---|---|

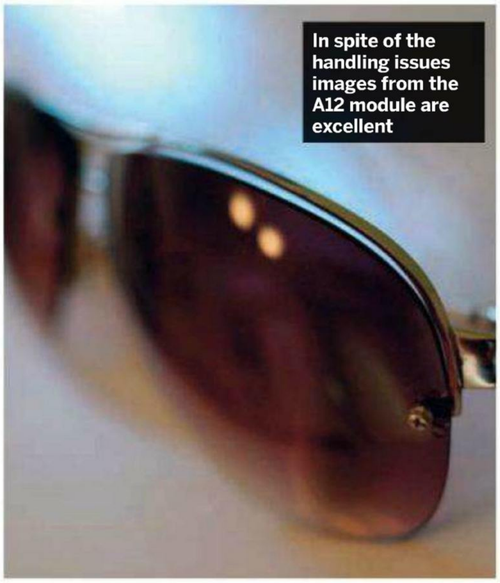
**£999**

**PROS**

Image clarity and quality, high ISO settings, very easy changeover between lenses

**CONS**

Cost implication, poor autofocus, undersensitive manual focus


In spite of the handling issues images from the A12 module are excellent

# Ricoh GXR

## A new compact concept

This is Ricoh's GXR system, which tailors each sensor to match with its lens – this makes sense from some angles, as dust isn't a problem when changing lens units. On the other hand, it's an unorthodox approach that poses new issues by its very conception: as sensor technologies advance there's no possibility of upgrading a single camera body to maintain use of all lenses in hand and, importantly, the cost implication of £400 for the body only is considerable.

### Features

The 3in LCD screen on the rear is excellent upon playback, fluid in use and images are dashingly detailed. Should you want to add an electronic viewfinder (EVF), Ricoh offers the VF-2, a high-resolution multi-angle option for around £220 separately or less when purchased as part of a camera kit.

### Performance

The first of three current units is the A12: a 50mm lens paired with a large DSLR-like APS-C sized sensor that's ideal for close-up shooting. It's quite a specialist bit of kit at £600. The lens isn't as top-class as would be expected, though: when shooting in macro mode the front element extends forward for up to 1:2 magnification (not true 1:1 macro). Autofocus is slow and the manual focusing ring is so under-sensitive it needs to be rotated fully before attaining close-up focus. The S10 unit has a smaller 1/1.7in CCD sensor and a 24-72mm focal length equivalent. The last of three available units is the P10: a 10MP 28-300mm equivalent.

### VITAL STATISTICS

| | |
|---|---|
| SENSOR | 12.3MP APS-C sized (23.6mm x 15.7mm) |
| OUTPUT SIZE | 4288 x 2416 |
| FOCAL LENGTH | 33mm; 50mm (35mm equiv) |
| LENS MOUNT | Ricoh GXR |
| LCD | 3in, 920k dots |
| VIEWFINDER | No optical, optional EVF available |
| FILE FORMATS | JPEG, RAW (DNG), AVI movie (M-JPEG) |
| COMPRESSION | JPEG baseline compliant |
| FLASH | Built in pop-up |
| DRIVE MODE | Single, Continuous, Self-timer |
| MEMORY CARD | SD/SDHC |
| POWER | Rechargeable li-ion DB-90 |
| DIMENSIONS | 113.9 x 70.2 x 28.9mm |
| WEIGHT | 226g (including battery and strap, no lens unit) |
| LENS UNIT DIMENSIONS | 68.7 x 57.9 x 71.3mm |
| LENS UNIT WEIGHT | 263g |

**The innovative GXR system offers a lens and sensor in one package, which can then be attached to the body** ▼

### Image quality

That APS-C sized sensor on the A12 module does provide glorious shallow depth of field and images are sharp and detailed. ISO pushes into the high sensitivity of 3200 and, while a tad grainy, the overall quality is more film-like than disruptive to quality. In fact, black and white images lend themselves rather well to this. Up the noise-reduction option in camera and some greater softness does occur, leading to a preference of keeping the feature turned off and doing any work in post production. Auto white balance, for the most part, did slightly lean towards warmer magenta tones, but was otherwise good. Raw file adjustment can correct for this. All in all, very impressive optical quality and detail rendered from the sensor would easily match a decent quality DSLR when compared side by side.

**VERDICT** **Although having a sensor optimised for the lens is useful, having a great lens means it isn't a huge issue in the first place. Fundamentally the performance (not quality) undermines the foundations of the concept. To really win, Ricoh needs to put in a lot of time to improve overall performance, and then this could be a winner. But for now, it's not.**

**SCORE** Features 16/20 Performance 15/20 Design 14/20 Image quality 19/20 Value 15/20 **79%**

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| 60D | 60D Body | £829.00 | £34.54 P/m |
| | 60D 18-55 IS Kit | £899.00 | £37.45 P/m |
| | 60D 18-55 + 55-250 IS II Twin Kit | £1,129.00 | £47.04 P/m |
| | 60D 17-55 IS Kit | £1,599.00 | £66.62 P/m |
| | 60D 17-85 IS Kit | £1,099.00 | £45.79 P/m |
| 7D | 7D Body | £1,099.00 | £45.79 P/m |
| | 7D 18-135 IS Kit | £1,449.00 | £60.37 P/m |
| | 7D 15-85 IS USM Kit | £1,699.00 | £70.79 P/m |
| 5D | 5D MK II Body | £1,669.00 | £69.54 P/m |
| | 5D MK II and 24-105mm Lens | £2,269.00 | £94.54 P/m |
| | 5D MK III Body | £2,999.00 | £124.95 P/m |
| | 5D MK III and 24-105mm Lens | £3,689.00 | £153.70 P/m |
| 1D | EOS-1D Mark IV Body | £3,499.00 | £145.79 P/m |
| | EOS-1D X Body | £5,299.00 | £220.79 P/m |
| | EOS-1Ds MK III Body | £5,399.00 | £224.95 P/m |

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| | D3100 18-55 + 55-200 VR Twin Kit | £729.00 | £8.58 P/m |
| | INCLUDES FREE NIKON ACCESSORY KIT WORTH £55 | | |
| D5100 | D5100 Digital SLR Body | £509.00 | £7.46 P/m |
| | D5100 Digital SLR 18-55 MKII Lens Kit | £569.00 | £8.34 P/m |
| | D5100 Digital SLR 18-55 VR Lens Kit | £599.00 | £8.78 P/m |
| | D5100 + 18-55 VR Lens + 55-200VR | £785.00 | £11.51 P/m |
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| | D7000 with Nikon 18-105 VR Lens | £1,095.00 | £16.06 P/m |
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| D800E | D800E Digital SLR Body<br>The 36.3 megapixel FX-format sensor and autofocus system deliver unprecedented levels of depth and detail in your photography. | £2,899.00 | £42.53 P/m |
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| SD1 MERRILL | SD1 Merrill 46 Megapixel Body Only. | £1669.00 | £24.48 P/m |
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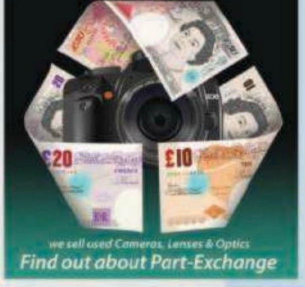
TRADE IN



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| | GX1 and 14-42mm Lens | £479.00 | £8.43 P/m |
| | GX1 with 14-42mm PZ. | £599.00 | £8.78 P/m |
| GH2 | GH2 and 14-42mm Lens | £669.00 | £9.81 P/m |
| | GH2 and 14-140mm Lens | £1,029.00 | £15.09 P/m |

Lenses

| | | |
|---|---|---|
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| Lumix G X Vario Wide Zoom 14-42 | £299.00 | £7,89 P/m |
| Lumix G Vario HD Zoom 14-140 | £589.00 | £8.64 P/m |
| Lumix G Vario Telephoto Zoom 45-200 | £279.00 | - |
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0% INTEREST FREE CREDIT AVAILABLE

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| Lenses | XF 18mm f2 R Fujinon Lens | £549.00 | £8.05 P/m |
| | XF 35mm f1.4 R Fujinon Lens | £549.00 | £8.05 P/m |
| | XF 60mm f2.4 R Macro Lens | £599.00 | £8.78 P/m |

### Nikon 1

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| | J1 10mm Lens Kit | £519.00 | £7.61 P/m |
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| | V1 10mm Lens Kit | £779.00 | £11.43 P/m |
| | V1 10-30mm & 30-110 | £889.00 | £13.04 P/m |
| Lenses | 10-30mm Nikkor Lens | £179.00 | - |
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| | K-01 & DAL 18-55 + DAL 50-200 Twin Kit | £529.00 | £7.76 P/m |

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|---|---|---|---|
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| Metz 50 AF 1 Flashgun | £179.00 |
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| PROS | CONS |
|---|---|
| Lovely design, premium build, solid performance and great images | Base ISO of 100 would be welcome |

**The Olympus OM-D E-M5 takes its design cues from Olympus's much-loved 35mm OM SLR range. Is the E-M5 a natural successor to this classic line of cameras?**

# Olympus OM-D

With the PEN range of Compact System Cameras, Olympus looked to its rich heritage for inspiration, and the company has done the same with its new OM-D line, of which the E-M5 is the first model. The new E-M5 takes its design cues from classic OM series SLRs of old and while it may be quite a different beast from its film camera siblings the philosophy remains the same – to be a compact, high-performance, quality camera for enthusiast photographers.

## Features

Rather than sticking with the 12MP resolution of the current PEN range, the new E-M5 sports a new 16.1MP sensor and an impressive ISO range of 200-25,600. There's a built-in electronic viewfinder (EVF) with a resolution of 1.44m-dots and a 3in wide, 610k-dot tiltable OLED touch panel screen at the rear of the OM-D E-M5. OLED stands for Organic Light Emitting Diode technology, delivering better white and blacks and also consumes less power as well.

Olympus has also developed a new built-in anti-shake system for the OM-D E-M5 model. This five-axis image stabilisation is designed to counter for pitch, yaw, vertical and horizontal motion.

The burst mode is also impressive, with the OM-D E-M5 capable of shooting up to 9fps (frames per second) in Speed H mode, though if you want to shoot with continuous AF, Speed L is required, with the frame rate dropping to a still respectable 4.2fps (3.5fps with IS switched off).

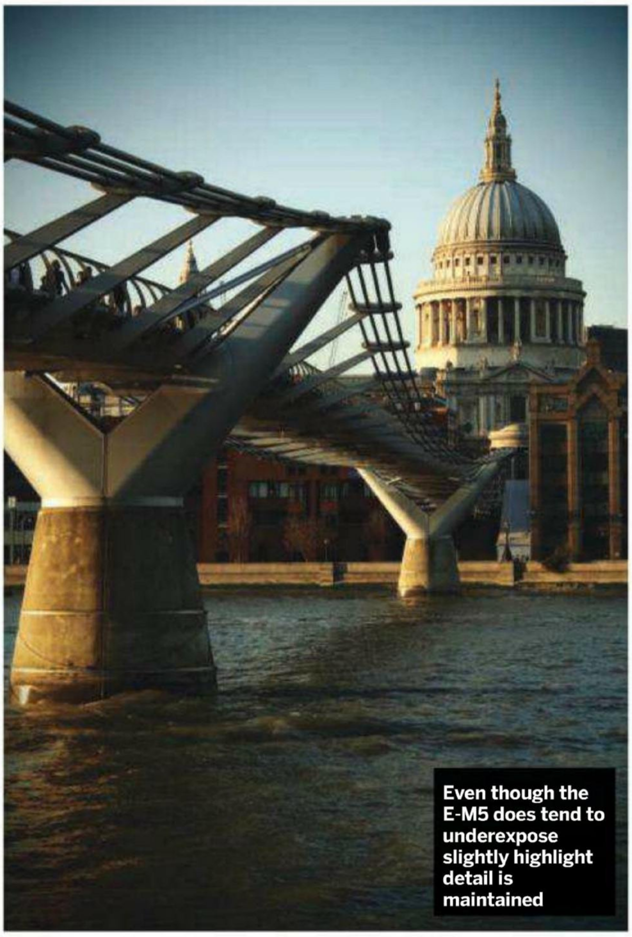
## Design

Thanks in part to the Micro Four Thirds system that the OM-D E-M5 is based on, it's a very compact piece of kit. Measuring just 121(W) x 89.6 (H) x 41.9mm (D), it's small without being fiddly. We were fortunate to have both colour options to test, and not only does the silver/black model look better, but the grip, with its more textured retro finish, is more comfortable than the black model's more modern offering.

The body is constructed from magnesium alloy to provide a quality, high-end feel when you pick the camera up, while the OM-D E-M5 features a host of internal seals so make it splashproof and dust-proof.

## Performance

In Single AF mode, the OM-D E-M5 is fast and accurate, offering a broad



Even though the E-M5 does tend to underexpose slightly highlight detail is maintained

**See the Olympus OM-D in action**

**The classic OM-D design is both sturdy and simple to navigate**
▼

35-area selectable AF coverage, though this does not stretch all the way to the edge of the frame. Thanks to the touchscreen technology it's possible to tap the area of the screen where you want to focus and there's a touch shutter release as well. Switch to Continuous AF, and compared to the E-P3, there's a noticeable jump in performance – the AF reacts quicker to changes in the scene, while the subject tracking is much more successful and it has to be one of the best AF systems in a Compact System Camera. The OLED screen at the rear is lovely – bright and crisp, with rich blacks and whites and the touchscreen element is responsive.

## Image quality

The OM-D E-M5 uses a 324-zone Multi-pattern Sensing System, so it's similar to the one found in the E-P3. There's a choice of either Multi-zone (ESP), Centre-Weighted, Spot, Spot Highlight and Spot Shadow. It's a system that works well – exposure is accurate, though in some circumstances could be seen to underexpose ever so slightly, though this does mean that highlight detail is maintained.

When set to Auto White Balance the OM-D E-M5 performs well, though not as neutral as some may like with a slightly warm cast. As well as Auto White Balance, the OM-D has a range of other presets: Tungsten, Fluorescent 1, Sunlight, Flash, Overcast, Shade and Underwater.

There's a host of Art filters as well, and a selection of colour modes: i-Enhance, Vivid, Natural, Muted, Portrait and Monotone. The Art modes can be really fun – we especially like the Grainy Film and Dramatic Tone modes, while shooting in Raw/JPEG means you've always got an unaltered original that you can return to should you not be happy with the filtered result.

The 16MP chip in the OM-D E-M5 eclipses the 12MP sensor used by the E-P3 and other cameras in the PEN range. At this resolution, the OM-D E-M5 is capable of producing an A3 print at 240ppi without an interpolation.

Pair the OM-D E-M5 with one of Olympus's high-quality prime lenses and the level of detail is excellent – definitely the best we've seen from an Olympus Micro Four Thirds camera and possibly the best from any camera with a sensor this size. As you might expect, the 12-50mm bundled kit lens doesn't deliver quite the same kind of detail, but is fine for general shooting.

## Value

This is a high-end Compact System Camera, and the price reflects that. While the body-only price of £999 means it's a serious investment, there's plenty here for your money.

This price-point means it's going to be compared with the virtually identically priced Sony NEX-7 – both are premium CSCs with EVFs and a host of advanced features.

And while it may not offer the ultimate resolution of the NEX-7, there's plenty of this that the OM-D does better, which is backed-up by an excellent selection of lenses.

### VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 16.1MP Micro Four Thirds Live MOS |
| **FILE FORMATS** | Raw (ORF), JPEG, Raw + JPEG |
| **SHUTTER SPEEDS** | 30-1/4000th second, plus Bulb |
| **IMAGE STABILISATION** | Yes, sensor shift |
| **DUST REDUCTION** | Yes |
| **ISO** | 200-25,600 |
| **EXPOSURE MODES** | P, S, A, M, iAuto, Art, Scene (23 scene modes) |
| **METERING SYSTEM** | 324 zone Multi-pattern Sensing System |
| **WHITE BALANCE** | Auto, 7 preset |
| **DRIVE MODE** | Single, Speed L, Speed H, Timer |
| **MOVIE MODE** | 1080 (30p) HD video |
| **LCD** | 3in wide, 610k-dot OLED screen |
| **VIEWFINDER TYPE** | 1.440k-dot EVF |
| **FOCUSING MODES** | Single, Cont, Manual, Tracking |
| **AF POINTS** | 35 selectable points |
| **MEMORY CARD** | SD (HC/XC) |
| **CONNECTIVITY** | Hi-Speed USB, HDMI |
| **POWER** | Rechargeable Li-ion |
| **WEIGHT** | 425g |
| **DIMENSIONS** | 121 x 89.6 x 41.9mm |

**The detail returned from the E-M5 is extremely impressive**

Model: Adriana from www.missionmodels.co.uk

**VERDICT** **The retro styling is very much a success, especially if you opt for the two-tone silver/black finish, while the materials and weather-sealing deliver an excellent, high-end feel. There are plenty of features on offer to satisfy even the most experienced photographer, and it's backed-up by a very decent performance. The OM-D E-M5 stays true to the original OM philosophy of a compact, high-performance, quality camera for enthusiast photographers and has to be one of the best Compact System Cameras we've seen.**

**SCORE** Features 18/20 Performance 19/20 Design 18/20 Image quality 18/20 Value 17/20 **90%**

**£829**

# Nikon 1 V1

## The V1 has some clever tricks up its sleeve, but neglects a few of the basics. Can it still succeed?

**PROS**

Some impressive tricks, fast burst shooting and focusing, good EVF, retractable lenses

**CONS**

Too basic for hobbyists, too expensive for everyone else

The Nikon 1 V1 is the more senior of the two debut models in Nikon's brand new mirrorless camera system, called the Nikon 1 system, which is based around a new sensor format called CX that measures 13.2x8.8mm and produces a crop factor of 2.7x in relation to full frame.

### Features

The V1 differs from its cheaper J1 sibling in several areas, the most important of which is that the V1 includes a built-in 1.4m-dot Electronic Viewfinder (EVF). It also features a magnesium alloy rather than an aluminium body, a higher-resolution 921k 3in LCD screen and the addition of a mechanical shutter. This also gives the V1 a faster flash sync speed of 1/250th sec instead of the J1's 1/60th sec. The V1 takes a larger, higher- capacity battery and while the J1 has a built-in pop-up flash the V1 does not, and provides instead an accessory shoe. These differences give the V1 a price premium of around £300 over the J1.

Otherwise things are very similar. The V1 shares the same 10.1MP sensor, and the same Expeed 3 processor that enables the V1 to perform the same bag of ground-breaking features. The most impressive of these is the ability to shoot a full resolution continuous burst at up to 60 frames per second, though only for about 12 frames (Raw or JPEG). The V1 can shoot full HD movies at 60i or 30p, and at 60p at the smaller 1280x720 size, all with full phase detect AF during recording.

### Design

Because of its larger battery the V1 is bigger than the J1 and is indeed a little bit bigger than some Micro Four Thirds cameras, which have much larger sensors.

It follows the same minimalist design as the J1 and from a practical point of view this does mean there's no handgrip to provide a firm purchase. The lenses for the 1 System are quite compact.

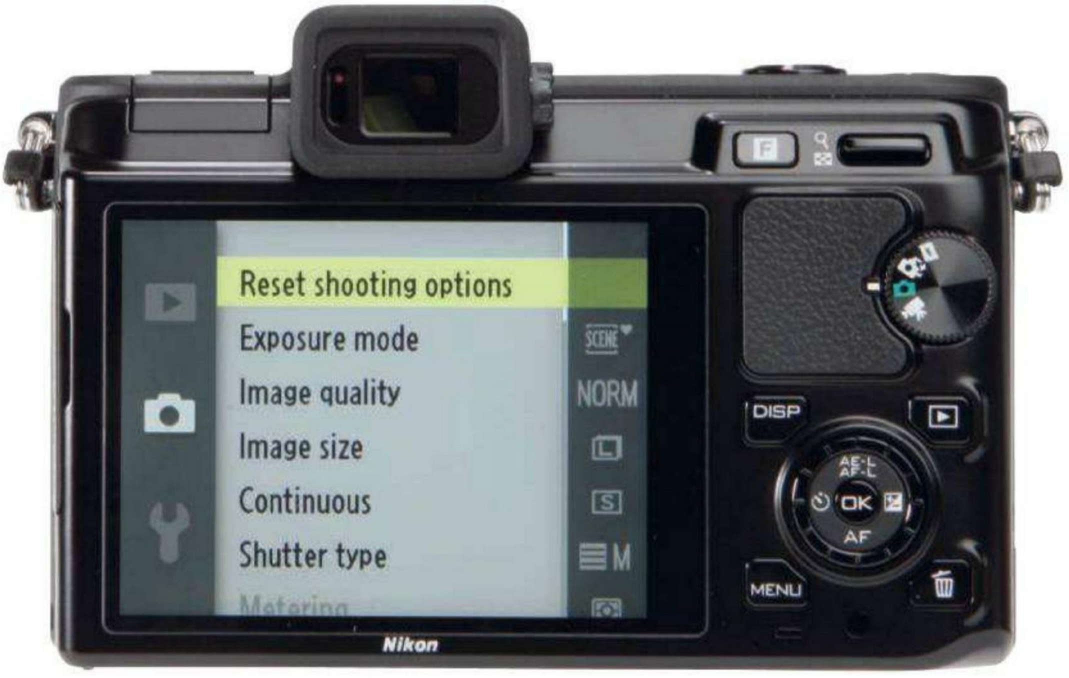
### Performance

The V1 performs its party tricks very well and is impressive in these modes. Focusing is fast and accurate, and its ability to lock onto moving subjects is probably better than that of any other CSC model we've used. The addition of the electronic viewfinder makes it so much easier to follow action than the J1 too. The EVF, which offers 100% coverage, switches on automatically as you put your eye to it and the resolution is among the best we've seen.

Where the V1 starts to fall down is when you want to take more control of the settings, at which point the need to keep plunging into the menus becomes a nuisance. The lack of any quick access to even the ISO or white balance is disappointing, and many of

▲ **The design of the Nikon V1 is minimal, almost entirely devoid of any touches of flair**

**The rear mode dial is missing manual modes, which is a serious misstep in our view** ▼



# What Lens?

Reviews from the WDC experts

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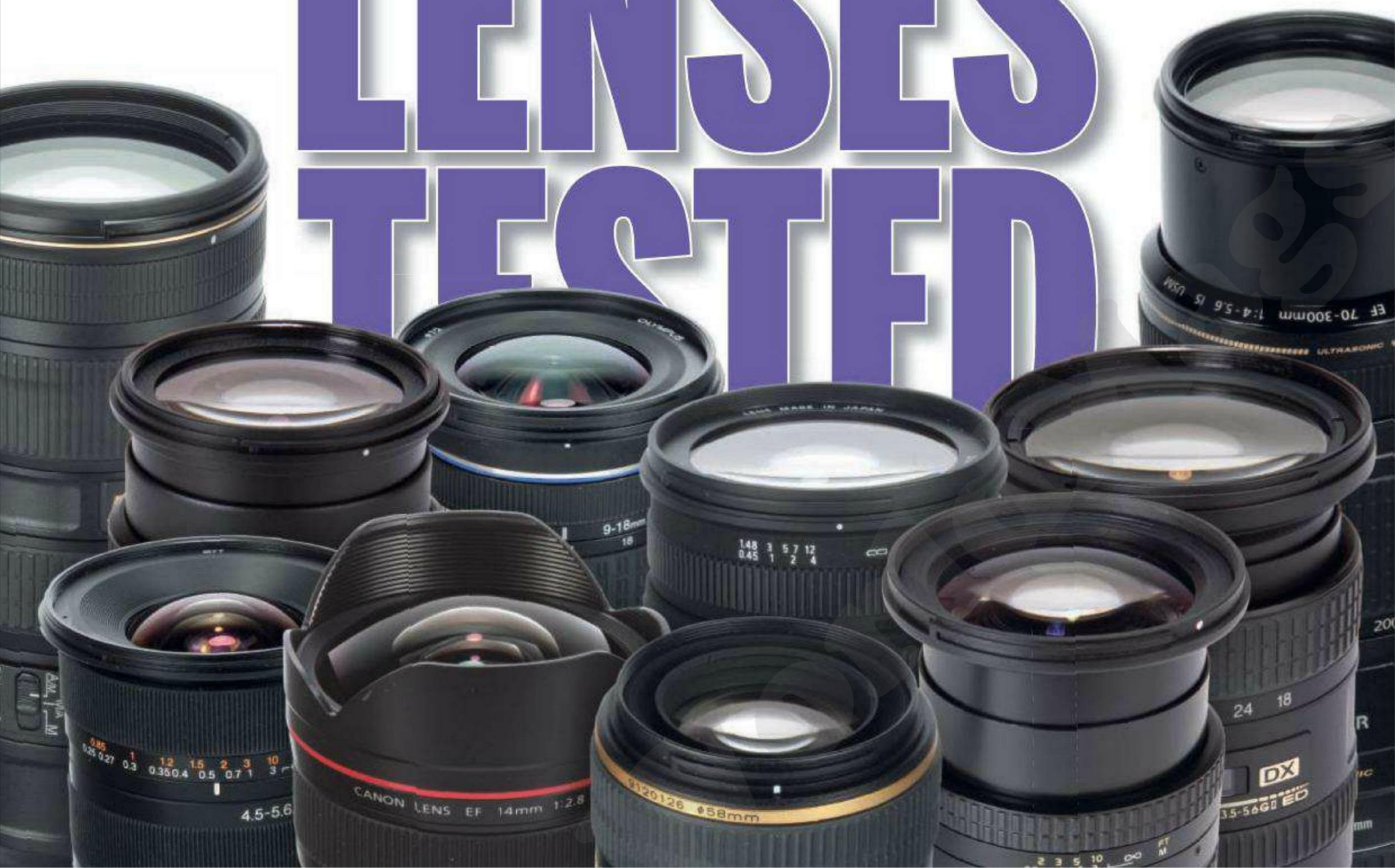

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Nikon

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# How do lenses work?

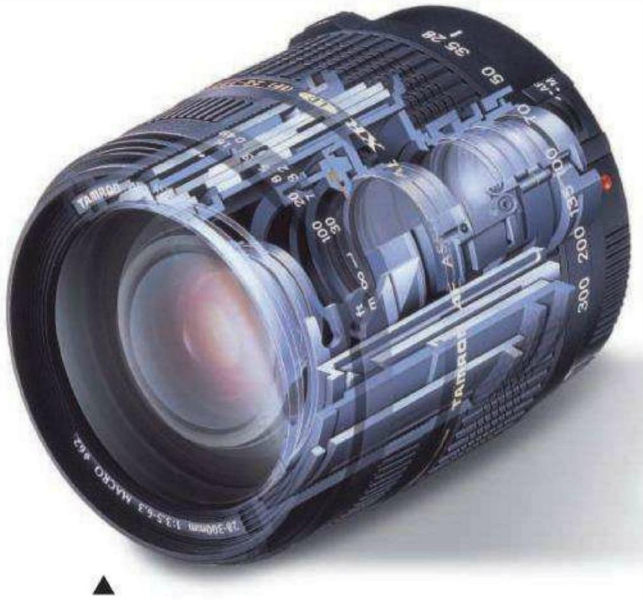
**The lens on your camera may not look like the most important part of the device, but rest assured it makes far more impact than the megapixels...**

For many people, the kit lens supplied with their DSLR on purchase suffices for most of their photographic needs. The keener photographer may supplement their cameras with an additional lens, either to give them a different focal length to work with, a lower maximum aperture, or to allow for macro photography, but for the everyday amateur, lens buying can prove a confusing task. Two lenses may look the same but be priced with hundreds of pounds between them, leaving the consumer scratching their heads over what the funny letters at the end of the name mean.

Each camera manufacturer has their own lens mount and most aren't compatible with one another. If you own a Canon DSLR, for example, you can't use Nikon lenses, though you can use independent brands such as Sigma, Tamron and Tokina – if you get them in the right mount. In the Micro System ranges Panasonic and Olympus lenses are interchangeable, and as Sony took over Minolta a few years ago any lenses from the older 35mm system may well work. If you're migrating from a 35mm SLR, your lenses won't provide the same field of view on a DSLR unless you have a 'full-frame' model such as a Canon 5D Mark II. Otherwise, for Nikon, Pentax and Sony DSLRs, magnify the focal length by 1.5x to get the 35mm equivalent (e.g. a 100mm lens becomes 150mm); for Canon it's 1.6x and Sigma is 1.7x. Within the specs of the lens two sets of vaules will be quoted. The first is the focal length, which is how wide the field of view of the lens is. When two values are quoted within this, such as 28-80mm, this denotes a zoom lens meaning the optics can move between the two values.

The second set of vaues is the widest possible aperture the lens will provide. Wider apertures, such as f/2.8, mean you can use faster, motion-stopping shutter speeds, and shoot handheld in available light with less camera shake. The higher the aperture, the less light allowed onto the sensor at the widest point. Zoom lenses will often quote two aperture values, such as f/4.5-f/5.6, which denotes the maximum aperture at the wide angle of the lens and the maximum aperture at the telephoto end. Some lenses will offer a fixed aperture, usually significantly increasing the cost. A 70-200mm f/2.8 lens, for example, will be able to maintain a wide aperture throughout the focal range keeping the images bright, and allowing a faster shutter speed to be used while keeping the image bright.

The longer a focal length gets, the less likely a wide aperture is. For example, a 500mm lens may only be able to offer an f/5.6 aperture regardless of how many thousands of pounds are spent on it. This is due to the level of magnification restricting the amount of light able to pass down the lens, making a wider aperture impossible. Finally a Macro denotation is only 'true macro' if the 1:1 ratio is used, which means the end result will be life sized and not magnified.



▲ **The internal structure of the modern lens hasn't differed vastly from those used fifty years ago, with some refinement and the introduction of electronic sensors and connection being the most significant additions**

## Inside a lens

**The elements inside Tamron's 28-300m f/3.5-6.3 XR Di LD Aspherical Macro lens explained**

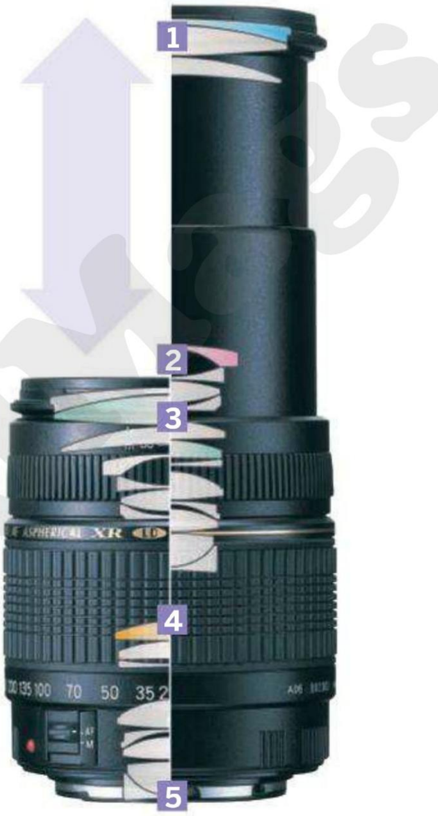
**1** Extra Refractive Glass, helping to achieve overall compactness by altering the angle of the light's refraction

**2** Aspherical element, bringing peripheral rays (those towards the edges) into the correct point of focus

**3** Low Dispersion element, minimising the angle at which the light entering the lens is dispersed

**4** Anomalous Dispersion element, giving an abnormally large partial dispersion ratio

**5** Super Hybrid Mount, claiming to be around 70% lighter than a conventional brass mount



# Canon

A selection of lenses from Canon, covering everything from tele-zooms through to prime wideangle optics

## EF-S 10-22mm

F/3.5-4.5 USM

| | |
|---|---|
| **PROS** | Extended zoom range |
| **CONS** | Lack of MTF consistency |

Most wideangle lenses of this type content themselves with a 2x zoom range but Canon has managed to push the boundary just a bit further with its 10-22mm zoom, achieving a factor of 2.2x.

Automatic focusing is carried out internally and benefits from Canon's quick, quiet and reliable UltraSonic Motor (USM). The manual-focusing ring location would be very inconvenient if the MF ring rotated and needed to be left unobstructed in AF mode but that is not the case. As well as extending the zoom, Canon has also provided a maximum aperture of f/3.5 rather than f/4.

Curiously, Canon's lens seems to have a significantly better MTF performance at its minimum focal length than at either of the other settings tested. Peak resolution was comfortably above 0.3 cycles-per-pixel in this case and the figures remained above 0.25 cycles-per-pixel down to f/16 (except at f/3.5) for all focal lengths.

**89%**

## EF 14mm

F/2.8L II USM

| | |
|---|---|
| **PROS** | Film and digital compatibility |
| **CONS** | Very high price |

The rearmost part of this lens's barrel contains a focused-distance window, to the left of which sits the slider switch to change between manual focusing and combined AF/MF. Focusing is carried out internally, without disturbing the focus ring in AF mode yet always allowing manual intervention.

One problem ultra-wide lenses have is an inability to attach filters at the front – this lens overcomes this by providing a large gelatine-filter holder behind the rear element. Other features include aspherical profiles and ultra-low dispersion, plus ultrasonic-motor focusing.

Technical testing reveals a very impressive peak resolution just short of 0.3 cycles-per-pixel at f/8 but a slightly weak performance wide-open and, even more so, with the aperture fully closed down. Distortion is very well controlled: straight lines remain straight even close to the frame edge. Overall this is a very impressive lens.

**90%**

## EF-S 15-85mm

F/3.5-5.6 IS USM

| | |
|---|---|
| **PROS** | Excellent handling and IS system |
| **CONS** | Drop-off in MTF curves |

Canon has made the zoom ring the centre of attention in this lens: it dominates the front half of the zoom and has a wonderfully slick action that offers the ideal amount of resistance. The lens is finished in a slightly satin texture that feels good and gives confidence when fitting and removing the lens.

Field testing confirms Canon's assertion that its single-mode IS system is more than sufficient for the job in hand. MTF testing returned mixed results. The lens is solid down to f/8 but after that the resolution shows a steady decline that drops to some very low figures at minimum aperture. There were also some signs of chromatic aberration at both ends of the zoom range. The 50mm setting seemed to be the focal length that produced the least chromatic aberration.

This is a lovely zoom that focuses quickly and stabilises images wonderfully – downsides are minor in comparison to its strengths.

**89%**

## EF 16-35mm

F/2.8L II USM

| | |
|---|---|
| **PROS** | Proven pedigree |
| **CONS** | Showing its age slightly |

This lens's handling is excellent thanks to a raised flange at the end of the lens barrel. The purpose of the 'bulge' is to allow the front element to move back and forth during zooming without changing the external length of the lens, but it also serves as an excellent hand-stop.

While strong at around f/8, the resulting MTF results from technical testing were otherwise rather disappointing. Performance at the 16mm setting was excellent, but things were less rosy at other focal lengths. At 25mm the top-quality sharpness range extended only from f/4 to f/16 and at 35mm it extended from about f/5 to f/19.

There was also some visible chromatic aberration in the technical images although real-world pictures did not suffer.

Overall this is a fine lens, though it's beginning to show its age. The observed areas of weakness can most likely be traced to previous poor handling of the test unit.

**91%**

## EF-S 17-85mm
F/4-5.6 IS USM

| | |
|---|---|
| **PROS** | **Solid feel and 5x zoom range** |
| **CONS** | **Barrel distortion, wide-aperture resolution** |

Boasting an impressive 5x zoom range this is a versatile lens. It also benefits from both image stabilisation and an ultrasonic motor, together with an extended focusing range that is proclaimed via the 'macro' moniker on the lens barrel.

The lens feels solid and its handling is good, though the forward-mounted zoom ring, with the manual-focusing ring behind, takes a bit of getting used to. There is some barrel distortion at the shortest focal lengths, and the lens doesn't offer great Macro performance – more justified are the image stabilisation (IS) and ultrasonic motor (USM) labels, but even these cannot really compensate for the 17-85mm's lacklustre wide-aperture resolution at all but the longest focal length settings. Overall, this lens doesn't really live up to its promises. The zoom range is excellent but in all other respects there are better alternatives to be found in the Canon stable.

**80%**

## EF-S 18-200mm
F/3.5-5.6 IS

| | |
|---|---|
| **PROS** | **Excellent value-for-money** |
| **CONS** | **No lens hood** |

This lens is fairly weighty and has a reassuring, solid feel. There is a broad zoom ring in the middle of the lens barrel with a narrower focus ring further forward which sadly rotates in AF mode and care must be taken to avoid obstructing it.

The zoom action is very smooth and offers just the right amount of resistance across its 90° throw. The AF system is brisk and reasonably quiet, while Canon's Image Stabilisation (IS) system is a dream.

In terms of technical testing, chromatic aberrations were seen at both ends of the zoom range in both MTF and field tests. Sharpness was good-to-excellent at short and medium focal-lengths but declined noticeably at 200mm. There was also a significant loss of sharpness at small apertures. Overall, however, this is a very impressive lens given its 11x zoom range and current street price which is some way below the price of the lens at launch.

**89%**

## EF 24-70mm
F/2.8L USM

| | |
|---|---|
| **PROS** | **Proven pedigree** |
| **CONS** | **Showing age in tough market** |

The lens has Canon's traditional pro-spec feel: it nestles in the hand comfortably so that the rearmost zoom ring and the forward manual-focusing ring are both within easy reach. Automatic focusing is brisk and distortion is virtually non-existent. MTF performance is held above 0.3 cycles per pixel from f/5.6 to f/11 at all focal lengths and only falls below the crucial 0.25 figure when the lens is used wide-open or fully stopped-down.

Given that the 0.29x maximum magnification falls a long way short of a 1:1 ratio needed for true macro photography, Canon has been slightly cheeky in using the designation. The lens isn't cheap, but Canon's clear intention was to produce a high-spec lens that will appeal to pros. The 24-70mm has also been weatherproofed to the extent that it is described as being 'highly resistant' to contact with dust and water.

**92%**

## EF 28-135mm
F/3.5-5.6 IS Macro USM

| | |
|---|---|
| **PROS** | **Great all-rounder** |
| **CONS** | **Cheeky 'macro' designation** |

This lens's AF mechanism is internal and employs an efficient Ultra Sonic Motor that leaves the focusing ring undisturbed in auto, but with the option of manual intervention if required.

The zoom ring feels smooth in normal use but becomes jerky when moved slowly, and although the lens can only magnify to 0.19x it bears one of Canon's cheeky macro labels.

Optical performance, in terms of MTF testing, is excellent. Some chromatic aberration was seen through the zoom range in technical testing but this should not spoil real-life images.

Image stabilisation is said by Canon to aid photography in low-light conditions but the greater benefit is reduced camera shake through the viewfinder.

Leaving aside its macro label, the only other issue is the fact that it has a restricted maximum aperture. Overall, however, this remains an impressive and competitively-priced lens from Canon.

**90%**

# Canon

## EF-s 55-250mm

F/4-5.6 IS II

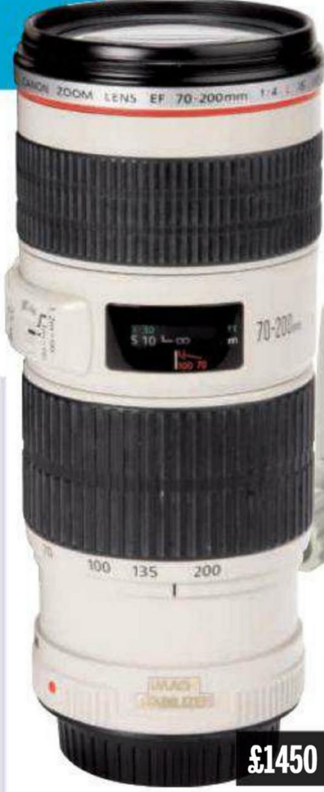
| | |
|---|---|
| **PROS** | **MTF figures** |
| **CONS** | **Visible CA** |

The layout of this lens follows a familiar pattern: there is a narrow focusing ring at the front of the lens and a wider zoom ring across the middle of the barrel. Unfortunately, photographers with larger hands may find it hard to cradle the lens without touching the focusing ring, which rotates in AF mode and therefore needs to be left unobstructed.

Focusing speed is good but the mechanism is clearly audible which can be a distraction, while the image stabilisation system is quite the opposite.

The lab tests return some excellent figures, which exceeds 0.3 cycles-per-pixel at both the 55mm and 135mm settings, falling only slightly short of that level at the tele end. However, there is obvious colour fringing right across the zoom range, as was clearly visible on a high-contrast test target. In summary, great test results, plus the low price, make this a great APS-C proposition.

**88%**



## EF 70-200mm

F/4L IS USM

| | |
|---|---|
| **PROS** | **Excellent value for money** |
| **CONS** | **Awkward location of IS mode switch** |

In some ways this Canon f/4 lens is better designed than the flagship 70-200mm f/2.8L lens.

Unlike on the f/2.8 lens, there is no tripod-mounting platform but that is not a huge issue given the size and balance of the f/4 lens when used with an EOS 50D (or similar) camera body. Though the f/4 lens has a first-generation IS system (it's second-generation in the f/2.8 lens) the only obvious difference was very slightly noisier operation.

Technical testing returned very solid results for all tested focal lengths across the important mid-range apertures but there are clear signs of chromatic aberration at 70mm (but not at other focal lengths).

Overall, the f/4 lens clearly plays second fiddle on paper but it is a very easy lens to carry and to use. Though it is expensive it is only roughly half the price of the f/2.8 version. Its compromises and limitations are slight but its price advantage is substantial.

**96%**

## EF 70-200mm

F/2.8L IS II USM

| | |
|---|---|
| **PROS** | **Consistent high-quality MTF performance** |
| **CONS** | **High price and mass** |

This is a really lovely lens to use, with every element of its design well thought out. The only real fly in the ergonomic ointment is the lens hood, which is a reversible type but totally blocks the MF ring and four two-position switches, as well as impeding slightly on the default grip position.

Technical testing revealed some excellent results but also a little over-ambition on Canon's part. Peak resolution hits 0.40 cycles-per-pixel at f/4, which is absolutely amazing, but drops right down to 0.17 cycles-per-pixel at f/32. Except in dire emergencies it would be better to use apertures no smaller than f/22 and further restriction to f/16 would ensure that the resolution hardly dropped below 0.3 cycles-per-pixel.

Overall this is a great but undeniably costly lens. If you are a demanding Canon user for whom price is not the decisive factor then this is a lens that you'll want to own.

**96%**

## EF 70-300mm

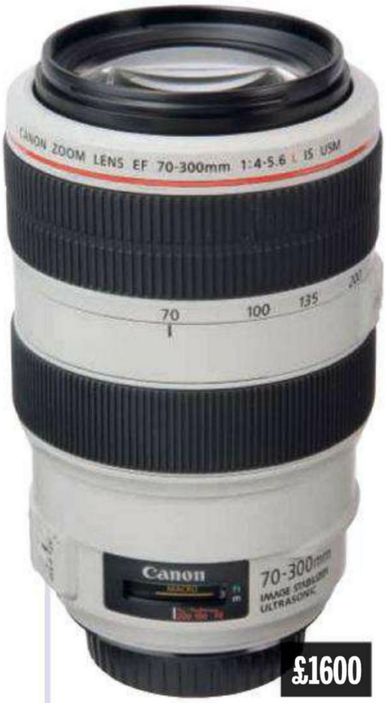
f/4-5.6 IS USM

| | |
|---|---|
| **PROS** | **Good all-rounder** |
| **CONS** | **Lack of IF** |

The zoom ring occupies the centre section of this lens's barrel and is perfectly located for comfortable use at any focal length. Immediately behind the zoom ring are slider switches to activate the Image Stabilizer and to select the most appropriate mode. The front of the lens rotates during focusing, undermining any careful alignment of filters that may need to be maintained at different distances. For the price, this is a predictable compromise.

MTF testing revealed impressive results across the zoom range, with just the maximum focal length proving slightly weaker. Provided that the lens is stopped-down no further than f/16 there is likely to be full sharpness. Conversely, selecting minimum aperture will degrade image quality and it is a shame that Canon did not simply limit this to f/32 at all focal lengths rather than allowing the setting to shrink to f/45 at 300mm focal length.

**88%**



£1600

## EF 70-300mm

f/4-5.6L IS USM

| | |
|---|---|
| **PROS** | **Ultra-reliable AF and IS systems** |
| **CONS** | **Poor sharpness beyond f/16** |

Although the lens is rather wide and also extends considerably when zoomed to 300mm, it remains easy to hold and perfectly balanced at all times. Design-wise there is nothing to fault other than the distance window being sat rather far back. Similarly, there is nothing to fault in the speed, accuracy and quietness of the AF and IS systems. The hood obstructs the lens when reversed for storage so the hood has to be kept separately if the lens might be grabbed for an instant picture.

Unfortunately performance isn't consistently impressive. The weaknesses are wide-open at the shortest focal lengths and at all focal lengths beyond f/16. It is bizarre that Canon allows the aperture to stop-down beyond f/22 as there is such a loss of bite that discerning users can surely only be upset with results.

That niggle aside, this is a really lovely lens and if this one is the lens you choose, you won't be disappointed.

**93%**

£320

## EF 35mm

F/2.0

| | |
|---|---|
| **PROS** | **Full-frame coverage** |
| **CONS** | **Rather costly** |

This lens is compact and lightweight yet feels sturdy and mounts onto the camera body. Automatic focusing is noisy compared to Canon's USM lenses, and although technical testing revealed slight softness at maximum and minimum aperture, real-world testing produced images both sharp and free of chromatic aberration.

**90%**

£540

## EF-S 60mm

F/2.8 USM

| | |
|---|---|
| **PROS** | **Fast and quiet focus, good image quality** |
| **CONS** | **Slow to switch between focus modes** |

The lens consists of twelve elements in eight groups and uses an Ultra Sonic Motor for AF movement, which is quiet and quick. The lens produces the best performance at around f/5.6, and holds that well through the middle of the aperture range before dipping down at f/16. Similarly the chromatic readings in the corners drop as the aperture is reduced, but still within limits of acceptability.

**88%**

£450

## EF 50mm

F/1.4 USM

| | |
|---|---|
| **PROS** | **Fantastic MTF figures** |
| **CONS** | **AF is slightly unrefined** |

This lens has excellent ergonomics and automatic focusing, though slightly noisy, is quick and reliable. Technical testing reveals the most amazing set of MTF figures, offering excellent sharpness with negligible colour fringing. The low-geared manual focusing is a minor niggle, and for most users this lens is an absolute gem and a bargain.

**96%**

£470

## EF 85mm

F/1.8 USM

| | |
|---|---|
| **PROS** | **Quality and price** |
| **CONS** | **f/22 performance** |

This is an unpretentious and uncluttered lens. Focusing is swift and internal, leaving the front element undisturbed at all times. Technical testing reveals and excellent set of MTF figures, although it is a shame that Canon has seen fit to offer an f/22 setting because the MTF really plummets beyond f/16. That point aside, there is absolutely nothing to dislike about this lens, with its affordable price adding to the appeal.

**95%**

£650

## EF 100mm

F/2.8 Macro USM

| | |
|---|---|
| **PROS** | **Excellent build quality** |
| **CONS** | **Average sharpness, expensive** |

This lens is the more modest cousin of Canon's L-series version that includes both image stabilisation (IS) and ultra-low dispersion (ULD) glass. It might therefore be expected to deliver a fairly ordinary performance, but that is not the case. Its resolution does dip at f/4 and goes surprisingly low at f/2.8, but it delivers a resolution of about 0.35 cycles-per-pixel from f/5.6 to f/11 and only just crosses the 0.3 cycles-per-pixel line at f/16.

The lens focuses quickly, quietly and ultra-reliably, with virtually no hunting observed, while the broad manual-focus ring can be used any time in AF mode, which is definitely a benefit for handling and general operation.

Objects can be shot at a predetermined scale by choosing the MF mode and setting the desired reproduction-ratio in the distance window. This lens might not have ULD glass, but it's already remarkably free of chromatic aberration.

**89%**

# Nikkor

**A selection of prime and zoom lenses from Nikon, covering the whole gamut from telephoto to wide and everything in between**

## AF-S 10-24mm

F/3.5-4.5G DX

| | |
|---|---|
| **PROS** | **Alternative option for Nikon users** |
| **CONS** | **Slightly too costly** |

This is Nikon's affordable wide-angle lens, with a variable aperture range of f/3.5-4.5.

Although the 10-24mm should not be fitted to a full-frame camera, it has excellent DX-format compatibility and can be used on both high-end bodies such as the D300s and also simpler bodies that lack internal focusing motors, such as the D3100 and D5100. The only issue to watch out for is vignetting when a camera's pop-up flash is used, but this can be minimised by ensuring that the supplied lens hood is removed.

In terms of technical testing the new lens is very slightly weaker than its fixed-aperture stablemate, but the differences are minor. Real-world testing produced similarly comparable results, though there was no sign of the occasional softness seen with the 12-24mm.

Is Nikon's 10-24mm better than the 12-24mm? Not really, for the new lens simply offers Nikon users a different balance of price, aperture and zoom range.

**88%**

## AF-S 12-24mm

F/4G DX ED-IF

| | |
|---|---|
| **PROS** | **Superb ergonomics** |
| **CONS** | **Slight softness at times** |

This is a very nicely designed and comfortable lens to use. The zoom ring is furthest forward, and the manual-focusing ring is rearward and narrower, which makes sense since it is likely to be less commonly used. As focusing takes place internally there is no extension of the barrel and no rotation of the front element.

The lens maintains a constant f/4 maximum value right through the zoom range and the MTF testing reveals an almost-textbook set of curves that improve slightly from maximum aperture then decline very slowly as the lens is stopped-down.

In use, the lens sits neatly on the front of a D80 (used for this review). The AF system proved to be every bit as quick and quiet as Nikon claims but sometimes the results were a little soft, blotting an otherwise very attractive copybook. In theory this lens is looking a little long in the tooth, but it is still a useful zoom that is becoming increasingly competitively priced.

**87%**

## AF-D 14mm

F/2.8D ED-IF

| | |
|---|---|
| **PROS** | **High sharpness and good retro-compatibility** |
| **CONS** | **No AF-S motor** |

Nikon's 14mm ultra-wide is a classy-looking lens with a huge domed front element that protrudes forwards much further than the short sides of its integral petal-type lens hood.

A wide and very tactile focusing ring sits just behind the ridge but this is used only when the lens is set to MF mode: there is no option to provide manual intervention in AF mode. To switch between the focus modes you rotate a narrow collar just behind the focus ring. Further back sits a small focused-distance window that shows depth-of-field markings and an infrared focusing index.

This might be seen as a slightly primitive lens but Nikon's 14mm outperforms its Canon rival in technical testing, peaking above 0.3 cycles-per-pixel at f/8 and exhibiting less degradation at wide and minimum apertures. There is, however, a noticeable magnification change at different focused distances.

This is a really nice lens that handles well and offers excellent image quality.

**92%**

## AF-S 14-24mm

F/2.8G ED

| | |
|---|---|
| **PROS** | **Optical design and overall high-end quality** |
| **CONS** | **Filters can't be used, though this is expected** |

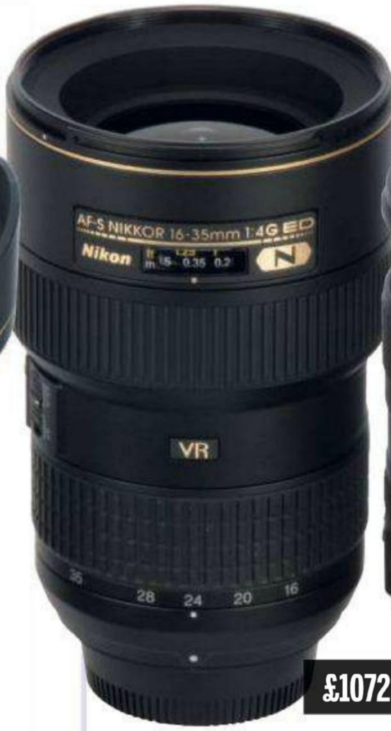
Nikon's ultra wide-angle 14-24mm lens is designed for use with Nikon's full-frame FX DSLRs such as the D800 and D4.

It features both a Nano Crystal coating and SWM motor for fast AF and at f/2.8 it is the fastest superwide zoom in its class. The optical train consists of 14 elements in 11 groups and includes two ED glass elements and three aspherical elements and comes complete with an integrated lens hood.

The 14-24mm is big and bulky at 970g, but the quality of glass speaks for itself. The lens performs extremely well, with sharp images and little sign of fringing in normal or high-contrast conditions. Even with harsh, low-lying sunlight entering the lens, there is no visible sign of flare or ghosting, while vignetting when used on the Nikon D3 is also hard to see. There is some distortion at both ends of the lens focal length, especially in the 14mm range, but this is to be expected on a lens this wide.

Overall, a quite remarkable piece of kit.

**93%**



£1072

## AF-S 16-35mm
F/4G ED-IF VR

| | |
|---|---|
| **PROS** | **Stunning optical quality** |
| **CONS** | **Slippery barrel finish** |

This is the world's first ultra-wide zoom to offer vibration reduction (VRII) technology, which is said to permit picture-taking at up to four stops less exposure times than was previously possible.

Zooming is carried out using the rearward ring, which would be awkward were it not for the fact that it is generously wide and can be gripped without needing a double-jointed third finger.

Optically, Nikon's 16-35mm f/4 is an absolute stunner. There is no chromatic aberration visible at 16mm and the tiny traces that can just be detected in technical images at 24mm and 35mm are totally insignificant in practice.

Some potential buyers may object to the fact that the aperture opens only to f/4 but the viewfinder image is bright and the addition of vibration reduction more than compensates for this limitation.

Overall this is a fantastic lens that deserves to be taken very seriously. A great option for FX shooters.

**96%**

£574

## AF-S 16-85mm
F/4.5-5.6G DX VR

| | |
|---|---|
| **PROS** | **Solid MTF performance** |
| **CONS** | **Overall design doesn't 'gel'** |

This lens is very compact, protruding less than 90mm from the front of the camera body. The zoom ring is at the front and offers just the right amount of resistance; the manual-focus ring is towards the rear, behind the focused-distance window, and verges on being slightly too narrow for comfortable use. Manual intervention is available in AF mode if required.

The curves for all four tested focal-lengths remain above the critical 0.25 cycles-per-pixel level from maximum aperture down to f/16.

Chromatic aberration is almost non-existent and can only be really detected as a trace effect in pictures captured at the 16mm setting. Furthermore, there's absolutely no denying that Nikon's VR system works really well in this lens.

If you hunt around you should be able to find this lens for around £400 to £500. Even the higher price is a fair figure but at the lower end of the range this is almost too good a bargain to miss.

**89%**

£762

## AF-S DX 18-200mm
F/3.5-5.6G DX ED-IF VRII

| | |
|---|---|
| **PROS** | **AF/MF mode and solid MTF figures** |
| **CONS** | **Comparatively costly** |

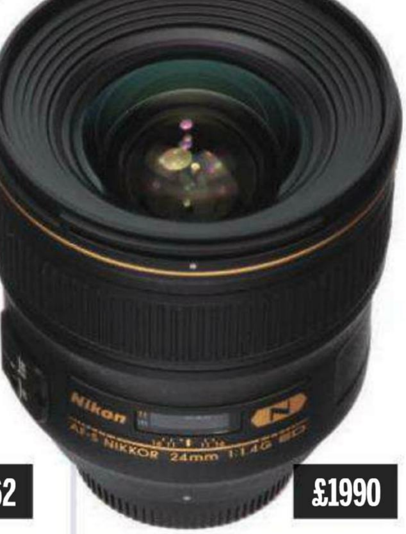
Nikon has placed the focus ring and a focused-distance window across the middle of the lens barrel and consigned the zoom ring to the front. The rear of the barrel is home to three slider controls that change the focusing mode, activate the Vibration Reduction (VR) system and select either Normal or Active VR compensation.

Autofocus is fairly brisk and quiet: the VR system is similarly effective but its operation is accompanied by (normal) 'clunks' on activation and deactivation.

There is only slight chromatic aberration, even at the 200mm maximum focal-length setting, and there is excellent sharpness out to f/16. Remarkable here given the 11x zoom range on offer – although Nikon's superzoom is more costly than its peers.

Overall, the additional benefits that Nikon's superzoom offers (including a rubber seal on the lens-mount) are accompanied by a slightly higher price but are certainly worth paying for.

**90%**



£1990

## AF-S 24mm
F/1.4G ED-IF

| | |
|---|---|
| **PROS** | **Outrageously capable lens** |
| **CONS** | **Very high price-point** |

The most obvious reasons to buy this wideangle Nikon lens hinge on its ultra-fast f/1.4 maximum aperture, which offers unparalleled low-light capabilities and the ability to record a narrow depth-of-field.

Nikon's ultra-fast prime delivers stunning MTF performances right across the aperture range, with just the slightest dip at maximum aperture but never falling below 0.25 cycles-per-pixel and holding above 0.3 cycles-per-pixel as soon as the aperture is reduced.

AF operation was virtually silent when tested on both a full-frame D700 body and a DX-format D80.

There really is nothing to dislike about this lens other than its high price. Many readers will probably opt for a more versatile and less expensive wideangle zoom lens but nevertheless we should all be grateful to Nikon for raising the optical bar so high, as the efforts that have gone into this lens will doubtless echo within the Nikkor family.

**93%**

## AF-S 24-70mm
F/2.8G ED-IF

| | |
|---|---|
| **PROS** | **Quick and precise AF, MTF is consistently high** |
| **CONS** | **Lens shadow cast by pop-up flashgun** |

Nikon's 24-70mm is one of those lenses that has a ridiculously long list of credits in its specifications. The official name indicates only a professional G-series design and the use of extra-low dispersion glass but its subtitle mentions and includes internal focusing, aspherical profiles, a Silent-Wave Motor and Nano-Crystal coating technology.

The Nikkor's image quality is equally impressive. Its MTF curves are above the critical 0.25 cycles per pixel at every aperture and focal length tested. Peak performance, at 0.3 cycles per pixel and upwards, is obtained between f/5.6 and f/16. Chromatic aberration exists only at very low levels and is totally absent at focal lengths above 50mm.

Handling is very good but the length of the lens can result in a slightly unbalanced feel with a more rearward grip.

Perhaps in the future Nikon will design a lens that is as good as this one but significantly shorter. In the meantime other manufacturers may feel slightly on the back foot when they see what Nikon has already achieved.

**94%**

## AF-S 24-120mm
F/4G ED-IF VR

| | |
|---|---|
| **PROS** | **Impressive optical performance** |
| **CONS** | **Bigger, heavier and more pricey than older model** |

This new f/4 version is bigger, heavier and more expensive but it is also a significantly better performer than the variable aperture version.

Two-mode Vibration-Reduction (VR-II) technology is offered. So on the left of the lens barrel there are three sliders in place of the previous zoom's two; as well as the uppermost MA-M switch and the VR Off/On switch there is now a VR Normal/Active switch.

Optically, the f/4 lens is a very strong performer. Not only do its MTF curves never drop below the critical 0.25 cycles-per-pixel level but also across the most commonly used apertures they sit above 0.30 cycles-per-pixel.

There is little to dislike about this lens and even its price, which is almost twice that of the older variable-aperture version, can clearly be justified in terms of superior optical performance and the addition of VR-II technology. There is still a place for the smaller, lighter and more affordable alternative but Nikon's new f/4 is definitely the smarter cousin and is sure to be the professional's choice.

**94%**

## AF-S 35mm
F/1.8G DX

| | |
|---|---|
| **PROS** | **AF and MTF performance** |
| **CONS** | **DX-format only** |

Nikon's AF-S Motor employed here is genuinely quiet; while it is also quick and smooth. The lens delivered very impressive results, with every aperture except fully-closed (f/22) returning an MTF figure above the critical 0.25 cycles-per-pixel threshold. The curve exhibits a familiar aerofoil profile with peak sharpness being achieved between f/4 and f/8 at a level of around 0.33 cycles-per-pixel. Nikon DX-format owners will delighted by the price and performance of this Nikon lens.

**93%**

## AF-S 50mm
F/1.8G

| | |
|---|---|
| **PROS** | **Fantastic full-frame performance** |
| **CONS** | **Some chromatic aberration** |

Nikon's G-series 50mm f/1.8 lens is an excellent example of its type and features the same deeply-recessed front element design that has been seen on Nikon's standard primes for decades. 50mm primes can look outdated in a world where zooms are dominant. They are often high performers; there is little to fault here. If you want the simplicity and purity of a standard prime on a full-frame body, or a modest portrait lens on an APS-C body, this lens is likely to be a very satisfying buy.

**93%**

## AF-S 40mm
F/2.8G DX Micro ED

| | |
|---|---|
| **PROS** | **High sharpness and low cost** |
| **CONS** | **Slow AF** |

Nikon's AF-S DX Micro Nikkor 40mm f/2.8G is a brand new lens, not a simple upgrade of an existing optic. And it delivers a genuine 1:1 macro capability and low price-point.

Overall this is a very impressive and inexpensive lens that should bring true macro photography within the grasp of most DX-format camera users. There are a few minor weaknesses, the most obvious of which is relatively sluggish focusing in AF mode, but there is nothing serious to dislike about this lens.

**95%**

## AF-S 85mm
F/1.4G ED-IF VR

| | |
|---|---|
| **PROS** | **Solid MTF figures** |
| **CONS** | **Hefty price** |

There is no way of avoiding the fact that, at £1,500, this is a very expensive lens. Automatic focusing is nothing short of top-class: it proved reliable, quick and truly silent when tested on both a full-frame D700 and an APS-C D80. A mark has been deducted from the overall Performance figure for the trace of chromatic aberration at f/1.4 and for marginally less 'bite' than was expected in real-world images, but this is an admittedly harsh judgement on so fine a lens.

**96%**

## AF-S 55-300mm

F/4.5-5.6G DX ED VR

| | |
|---|---|
| **PROS** | Wide zoom range |
| **CONS** | Poor MTF at 300mm |

Nikon's layout follows the common arrangement, with a narrow focusing ring at the front of the lens and a wide zoom ring behind it.

There are no distance markings on the lens and the focusing ring is also very narrow and awkward to reach, on account of it being so far forward.

Testing revealed negligible chromatic aberration at short and mid-range focal lengths but distinct colour fringing became apparent on the high-contrast test target when the lens was set to 300mm. Similarly, although the MTF curves for 70mm and 135mm both remained above 0.25 cycles-per-pixel from wide-open down to f/16, the curve for 300mm peaked at just 0.2 cycles-per-pixel at f/11. Potential buyers may prefer to choose Nikon's AF-S 70-300mm f/4.5-5.6 VR zoom. At around £429, it's almost £150 more than the 55-300mm, but delivers a more refined performance and better results.

**82%**

## AF-S 70-200mm

F/2.8G ED-IF VR II

| | |
|---|---|
| **PROS** | Consistent high resolution |
| **CONS** | Fiddly M/AF switch |

This is Nikon's latest generation 70-200mm f/2.8 lens and offers a wealth of features for the high-end enthusiast and pro.

As is the norm, Nikon offers anti-blur settings that combat camera-shake in a specific direction that allows panning to be used (Normal Mode) and camera-shake in all directions (Active Mode). Nikon suggests that Normal mode will be appropriate in most situations.

Technical testing resulted in a perfect score for Nikon's new lens: at no point did its MTF figures dip below, or even get close to, the critical 0.25 cycles-per-pixel level. In fact, as appears to be becoming the norm for Nikon lenses, the MTF curves are remarkably flat and tightly grouped. Canon's equivalent lens achieves a higher peak resolution but Nikon's lens is much more consistent and apertures can be selected without fear or favour.

This has to be one of the best performing zoom lenses we've seen. Excellent.

**97%**

## AF-S 70-300mm

F/4.5-5.6G VR ED-IF

| | |
|---|---|
| **PROS** | Internal focusing |
| **CONS** | Not much at all |

Most lenses of this type offer a maximum aperture of f/4 but Nikon's lens is limited to f/4.5. Despite this, it requires a 67mm lens cap even though its faster f/4 competitors are able to make do with either 58mm or 62mm.

The zoom ring dominates the lens barrel, with a narrow manual focus ring located to the rear. Manual focusing can be applied in AF modes. Beneath the AF mode selector is the second-generation Vibration Reduction switch and below that, slightly recessed to prevent accidental adjustment, is the VR mode slider. Technical testing revealed good consistency but no particular sweet-spot. As is normal for zooms of this type, the 300mm setting produced the weakest MTF results and was also associated with slight colour fringing in high-contrast test-target images (but not in real-life pictures).

This is a solid option for the price if you're looking for a long zoom lens that'll deliver decent results.

**89%**

## AF-S VR Micro 105mm F/2.8G IF-ED

| | |
|---|---|
| **PROS** | Ultra-reliable focusing |
| **CONS** | Wide-open non-macro |

Thanks to the addition of Vibration Reduction (VR) technology this is a big lens by conventional 100mm macro standards, and it is also heavier and more expensive than the norm.

The manual-focus ring, which is continuously available for making adjustments in AF mode, is broad and perfectly located. Similarly, the three slider switches that determine the focusing mode, focusing range and VR activation all fall naturally under the left thumb, but there are no tactile clues that distinguish them, so they cannot be set as instinctively as they would otherwise.

The lens focuses very quickly and quietly. The VR technology is not as useful in macro photography as it might be elsewhere because cameras are often tripod-mounted to ensure sharp focusing.

The 105mm Micro is an impressive lens overall, but you could say it packs in more than it needs to.

**89%**

SONY:
20MM
DT 30MM
DT 50MM
DT 11-18MM
DT 16-50MM
DT 18-50MM
DT 18-250MM
70-300MM

# Sony

A selection of prime lenses, along with wideangle and telephoto zooms from Sony

## Sony 20mm

F/2.8

This is a cleanly-designed lens with a sleek appearance. In use, the AF mechanism drives the rear of the lens and works quickly. There were some inconsistencies in test focusing, although real-world images displayed perfect focus. MTF testing also generated good results and overall, Sony's 20mm f/2.8 is a good-looking lens that returns a solid performance.

**85%**

**£550**

## Sony DT 11-18mm

F/4.5 - 5.6

Despite its low mass, this lens has a solid feel. MTF testing revealed results that were neither outstanding nor deficient, with chromatic aberration also relatively controlled. The lens puts in a solid overall performance that simply fails to be outstanding. This zoom's greatest appeal resides in its attractive price and in that sense it offers Sony users the ideal combination of spec, performance and price.

**84%**

**£500**

## Sony DT 30mm

F/2.8 Macro SAM

Sony's 30mm f/2.8 lens is compact and unassuming but has unique appeal in offering a genuine 1:1 macro capability. Technical testing revealed a disappointing set of resolution figures, but real-world close-up photography produced some excellent results. As a macro, Sony's 30mm prime lens is a great performer and a relative bargain.

**88%**

**£160**

## Sony DT 16-50mm

F/2.8 SSM

Sony's 16-50mm zoom is a professional-quality lens at an affordable price. In AF mode, Sony's Super-Sonic Motor (SSM) proved not only to be quick and quiet but also very reliable. MTF testing revealed a nicely grouped set of curves with just the faintest hint of chromatic aberration on high-contrast test targets. In summary, this is a very good lens in its own right and an excellent choice as a first-choice versatile kit lens.

**89%**

**£570**

## Sony DT 50mm

F/1.8 SAM

Sony has packed this lens into a compact, yet usable, package. The only problems relate to the focusing ring; its small size hampers manual use and rotation in AF is far from ideal. MTF testing produced some impressive results, and there is no escaping the fact that this is a very useful lens that performs well and carries a rock-bottom price tag.

**91%**

**£150**

## Sony DT 18-250mm

F/3.6 - 6.3

This lens feels solid and inspires confidence. Automatic focusing is not particularly brisk but is pleasingly reliable. Chromatic aberration is detectable at both ends of the zoom range in both technical and demanding real-world images, but not in everyday images. In terms of MTF performance, Sony's lens works best as a wideangle zoom, and overall this lens is a solid and sound investment.

**85%**

**£400**

## Sony 70-300mm

F/4.5-5.6 G SSM

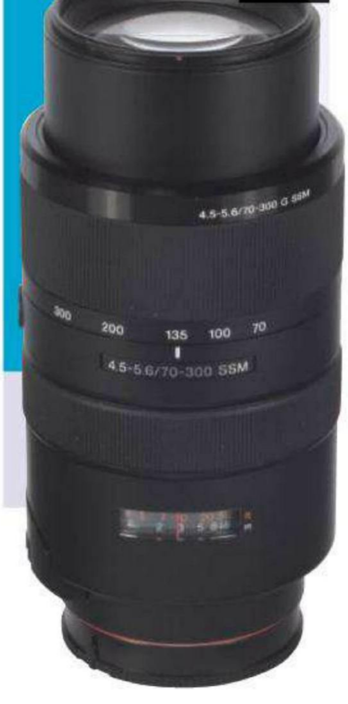
This lens feels very well built and incorporates an SSM (Super Sonic Motor) AF system that is quick and virtually silent. The mechanism uses internal focusing that leaves the rearward focus ring undisturbed yet allows manual adjustments. There is no image stabilisation in the lens, which would be a major weakness were it not for Sony's in-camera SteadyShot system.

The MTF curves are tightly bunched around the critical 0.25 cycles-per-pixel boundary with only the 300mm curve sitting slightly lower. Signs of chromatic aberration at both extreme focal lengths were spotted only in high-contrast technical images, rather than real-world photos.

Sony's tactic of treating its lenses and cameras as co-dependent components means it's hard to evaluate this zoom in isolation. Its lack of viewfinder stabilisation is a minus point but its focus lock is useful and its build quality is very solid. Ultimately, though, it looks very costly against, say, Nikon's latest 70-300mm, which is better specified and is about half the Sony's price.

**86%**

**£850**



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| 17-70mm f2.8-4.0 DC Macro OS HSM | £339.00 |
| 18-50mm f/2.8-4.5 DC OS HSM | £173.00 |
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| 18-200mm f/3.5-6.3 DC | £179.00 |
| 18-200mm f3.5-6.3 II DC OS HSM | £299.00 |
| 18-250mm f/3.5-6.3 DC OS HSM | £399.00 |

| | |
|---|---|
| 24-70mm f/2.8 EX IF HSM | £599.00 |
| 50-500mm f/4.5-6.3 DG OS HSM | £1269.00 |
| 50-200mm f4-5.6 DC OS HSM | £179.00 |
| 70-200mm f/2.8 EX DG OS HSM | £899.00 |
| 70-300mm f/4-5.6 DG OS | £299.00 |
| 70-300mm f/4-5.6 DG Macro | £129.00 |
| 70-300mm f/4-5.6 APO DG Macro | £183.00 |
| 120-300mm F2.8 EX DG APO OS HSM | £2049.00 |
| 120-400mm f/4.5-5.6 DG OS HSM | £718.00 |
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| 200-500mm f2.8 EX DG | £13,399.00 |
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| | |
|---|---|
| 4.5mm f/2.8 EX DC Circular Fisheye | £619.00 |
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| 24mm f/1.8 EX DG Aspherical Macro | £445.00 |
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| | |
|---|---|
| 50mm f/1.4 EX DG HSM | £379.00 |
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| | |
|---|---|
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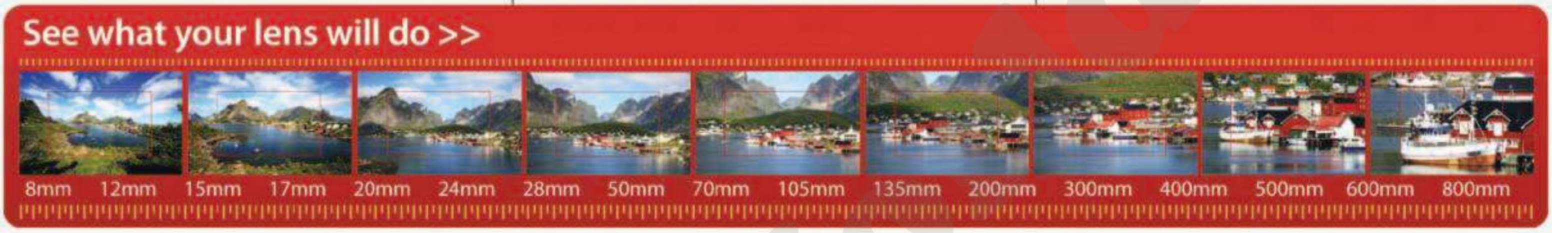

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# Olympus

## Zuiko ED 18-180mm

F/3.5-6.3

| | |
|---|---|
| **PROS** | Robust handling |
| **CONS** | Power-driven MF |

Olympus has the knack for creating unpretentious lenses and this one is no exception. The lens has a very solid feel that positively inspires confidence. Its rearward zoom ring is perhaps a shade too far back but the grip is good and the rotation is smooth. There is no movement of the focusing ring in AF mode and it has a very light touch when used manually.

Technical testing revealed some chromatic aberration at both ends of the zoom range, but in neither case was this apparent in everyday pictures, while MTF performance is also to a reasonable level. The only omission is a lack of in-lens image stabilisation, although overall the Olympus zoom has a definite edge over the other similar non-IS superzooms.

**87%**

£560

£630

## Zuiko ED 9-18mm

F/4.5-5.6

| | |
|---|---|
| **PROS** | Lightweight and very affordable |
| **CONS** | Softness and sluggish AF |

As is often the case for Four Thirds lenses, this is a lightweight and compact design. The zoom employs low-dispersion glass and an element that has an aspherical profile on both surfaces, designated as a Dual Super Aspherical (DSA) element. The lens performs well under testing and although some slight softness was seen in some real-world pictures, this is a lens which is both very capable and extremely keenly priced.

**87%**

£660

## Zuiko 14-54mm

F/2.8-3.5 II

| | |
|---|---|
| **PROS** | Wide maximum aperture |
| **CONS** | Some chromatic aberration |

This is classified by Olympus as a pro-spec lens, which makes its relatively modest street price an even nicer surprise.

Automatic focusing is both quick and quiet, while the lens is well designed. It produces some very good MTF figures at a range of settings, although unfortunately significant chromatic aberration is evident. Overall this is an affordable and unobtrusive lens that has great ergonomics and resolution.

**88%**

# Pentax

## DA 18-135mm

F/3.5-5.6ED AL(IF) DC WR

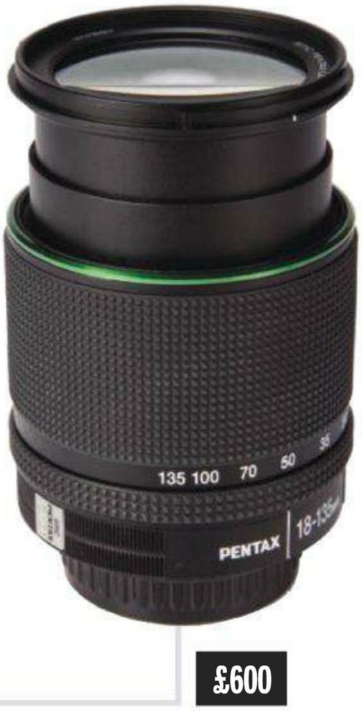
| | |
|---|---|
| **PROS** | No-fuss operation |
| **CONS** | Distortion at extreme focal lengths |

Despite this weatherproof lens's compact size there is a full 7.5x zoom range on offer. In AF mode the focusing ring remains undisturbed thanks to a genuine internal-focusing mechanism meaning when manual focusing can be applied at any time.

MTF testing revealed very good results in the mid-zoom range and at the shortest focal length setting once the lens has been stopped-down slightly. The longest focal length produced the weakest results but even these figures are acceptable. Although chromatic aberrations are dampened they were visible in technical testing at both ends of the zoom range.

Overall, this is a capable, compact and comfortable-to-use lens that has the capability to overcome a range of different challenges, including both the photographic and meteorological.

**86%**



£600

## SMC DA 35mm

F/2.4 AL

| | |
|---|---|
| **PROS** | Price and MTF performance |
| **CONS** | Harsh AF drive |

Focusing with this lens in AF mode is very brisk indeed but is also rather noisy and produces a harsh slam when the lens reaches the extremes of its focusing range. Technical testing returned some very impressive results – only at minimum aperture (f/22) did the prime's results drop slightly below the critical 0.25 cycles-per-pixel level. Be sure not to be deceived by its low cost: this is a very capable lens and offers great results.

**92%**

£180

## SMC DA 55mm

F/1.4 SDM

| | |
|---|---|
| **PROS** | Excellent ergonomics |
| **CONS** | Fringing in MTF images |

This is an expensive lens that looks classy and well-made. Automatic focusing is brisk and allows manual intervention if required. Ergonomically the lens is a delight to use but technical testing revealed some disappointing fringing at wide apertures. From f/2.8 onwards things are much better and the lens performs satisfactorily in the majority of picture-taking situations. The quietness of the lens is also particularly noteworthy.

**91%**

£800

# Sigma

## 18-250mm
F/3.5-6.3 DC SLD OS HSM

| | |
|---|---|
| **PROS** | Effective Optical Stabilisation |
| **CONS** | Focusing ring rotates in AF |

This lens focuses reasonably quickly and very reliably. Sadly the focusing ring rotates and there is no option to apply manual focus adjustments when the lens is in AF mode. There is some untidiness in the MTF curves. However, provided that the lens is not used wide-open at a longer focal-length setting, the results are reasonable. There is also some corner softness, especially wide-open, but chromatic aberrations are minor and unobtrusive.

In terms of handling, the stowed lens-hood gets in the way when short focal-lengths are set, which is also the time when the hood is likely to be most effective. More encouragingly, the optical stabilisation system is very quiet and works like a dream – a good reason to buy.

**91%**

**£572**

**£800**

## 8-16mm
F/4.5-5.6 DC

| | |
|---|---|
| **PROS** | Excellent 8mm performance |
| **CONS** | Weaker performance at 16mm |

The ultra-wide zoom has very good handling characteristics thanks to a lovely balance and fully internal focusing, which is brisk and reasonably quiet. The zoom is at its best when set to 8mm and weaker at 16mm.

This lens doesn't really sparkle in the same way as Sigma's 10-20mm f/3.5. If the last 2mm aren't crucial, the fixed-aperture zoom is probably the better bet, but at least the 8-16mm lens is there if you need it.

**89%**

**£664**

## 10-20mm
F/3.5 EX DC HSM

| | |
|---|---|
| **PROS** | Stunning performance |
| **CONS** | Slight focusing stiffness |

The design of this lens is compact but very usable. The rearward zoom ring is a shade narrow but has the right feel.

Given the extreme angles of view offered by this lens it would be understandable for there to be visible distortion, but very little exists, with the lens offering stunning resolution and brilliant in real-world results. In short, this is an absolute gem of a lens that deserves a place at the top of every photographer's wish-list.

**95%**

## 15mm
F/2.8 EX DG FISHEYE

| | |
|---|---|
| **PROS** | Fisheye effect (use carefully!) |
| **CONS** | Fiddly to use |

Sigma's 15mm lens is comparatively compact yet still finds room for both a focusing ring and, on the Nikon-fit lens, an aperture scale. Test data obtained indicate good sharpness, although there was minor chromatic aberration and also some slight signs of softness in the far corners, beyond the reach of the test target. Overall, the value of this lens comes down to personal preference regarding the distinctive 'fisheye' look.

**88%**

**£613**

## 50mm
F/1.4 EX DG HSM

| | |
|---|---|
| **PROS** | Imposing presence |
| **CONS** | Distinctly heavy |

The Sigma lens tips the scales just over 0.5kg, which is closer to what might be expected for an f/1.2. It offers remarkable performance at a range of settings, with chromatic aberration undetected in real-word pictures. This lens is priced above the norm but delivers results that are similarly elevated. It is available in a range of lens mounts, meaning a greater number of users will have access to its immense power.

**97%**

**£459**

## 17-70mm
F/2.8-4 DC Macro OS HSM

| | |
|---|---|
| **PROS** | Great all-round lens |
| **CONS** | Non-internal focusing |

Handling is generally good but there is one serious niggle, which is that the focusing ring rotates in AF mode despite the use of internal focusing. This would not be quite so serious were it not for the fact that the zoom's compact size and the forward location of its focusing ring means that it is almost impossible to avoid gripping the ring when holding the lens securely.

Power for the OS system comes from the camera and is therefore an additional drain on the battery: this is worth remembering if you find that the camera's battery is running down. It also means that the lens is active in OS mode for as long as the viewfinder and LCD panel are active. MTF testing reveals this to be a very impressive lens with very little chromatic aberration seen. Overall this lens offers stunning resolution, optical stabilisation and a more-than-four-times zoom range at a good price.

**91%**

**£408**

## APO 50-500mm
F/4.5-6.3 DG OS HSM

**PROS** A very versatile lens

**CONS** Poor 500mm MTF performance

£1399

This lens has a robust feel and offers excellent handling that is complemented by an efficient two-mode optical stabilisation system and Sigma's high-speed HSM AF mechanism. There is no escaping the fact that this is a heavy lens but its mass gives a sense of confidence in the zoom's build quality and provides a comfortable balance when a mid-weight camera body is mounted at the rear.

Focusing is both very quick and quiet, while manual interventions can be applied in AF mode . The only disappointment is a severe drop in MTF performance at the 500mm setting, as testing across the rest of the zoom range returned some good results. Although it impresses, this would be a much better performer if it were a 50-400mm zoom, especially given that it is compatible with Sigma's 1.4x and 2.0x tele-converters for when extra reach is needed. This would also reduce the lens's price.

**87%**

£700

## 85mm
F/1.4 EX DG HSM

**PROS** Two-part lens hood

**CONS** F/16 performance

Being an f/1.4 lens, Sigma's 85mm is decidedly chunky and heavy. That said, it is also well-balanced and very comfortable to hold. The AF system is quick, and uses internal focusing so there are no grip restrictions. Testing reveals that this lens has been optimised for use between f/2.8 and f/8, while very slight traces of chromatic aberrations were noticed. Overall this is a very nice lens that offers a bright viewfinder and excellent image quality.

**94%**

£408

## 70-300mm
F/4-5.6 DG OS

**PROS** Full-frame

**CONS** Poor MTF at 300mm

Focusing in AF mode on this lens is brisk but not especially quiet, while the OS system is quiet but not especially effective in terms of steadying the viewfinder image. Technical testing revealed strong figures at 70mm, dropping slightly at 135mm and declining still further at 300mm. There was negligible chromatic aberration at the short and mid-range focal lengths. Overall, Sigma's 70-300mm zoom is a solid performer.

**85%**

# Tamron

## SP AF 180mm
F/3.5 DI LD (IF) Macro

**PROS** Great dual-purpose lens

**CONS** No AF/MF mode

£896

This lens can, in theory, be used for macro work from a range of about 36cm, which is a very comfortable working distance. The reality is not quite so generous but the working distance remains very comfortable for most levels of macro work.

MTF testing confirms that its impressive images really are sharp numerically. From wide-open to f/11 the MTF figures hover around a highly impressive 0.35 cycles-per-pixel and the lens does not fall below the critical 0.25 cycles-per-pixel level until beyond f/16.

Handling is excellent, while the internal-focusing system is brisk and quiet. In short, this is a well-designed lens that produces cracking results on both full-frame and APS-C DSLR camera bodies.

**94%**

## SP AF 17-50mm
F/2.8 XR DI II LD (IF)

**PROS** Fast aperture

**CONS** Non-internal focusing

This lens is remarkably compact and just heavy enough to suggest a solid build quality. The vibration control mechanism is efficient, but it does have an odd jerkiness, while automatic focusing is reasonably quiet, and both systems perform both briskly and effectively. The lens puts in a strong performance under technical testing conditions and in summary is an impressive performer bar a few small niggles.

**91%**

£541

## SP AF 60mm
F/2 DI-II LD (IF) Macro

**PROS** True 1:1 macro ratio

**CONS** Average AF performance

This is a true macro lens that is genuinely capable of a 1:1 reproduction ratio and also benefits from a fast f/2 aperture. Ergonomically there is nothing to fault. Internal focusing means there is no need to keep fingers clear of the focusing ring and manual intervention can be applied effortlessly at any time. Though some chromatic aberration was seen in high-contrast technical shots, real-world pictures were generally fine.

**92%**

£550

# The Ultimate Travel Lens

## 18-270mm f3.5-6.3 VC PZD Lens

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i) For SLR camera high-zoom-ratio lenses with 15x magnification capability. Current as of December 2010. (Source: Tamron).

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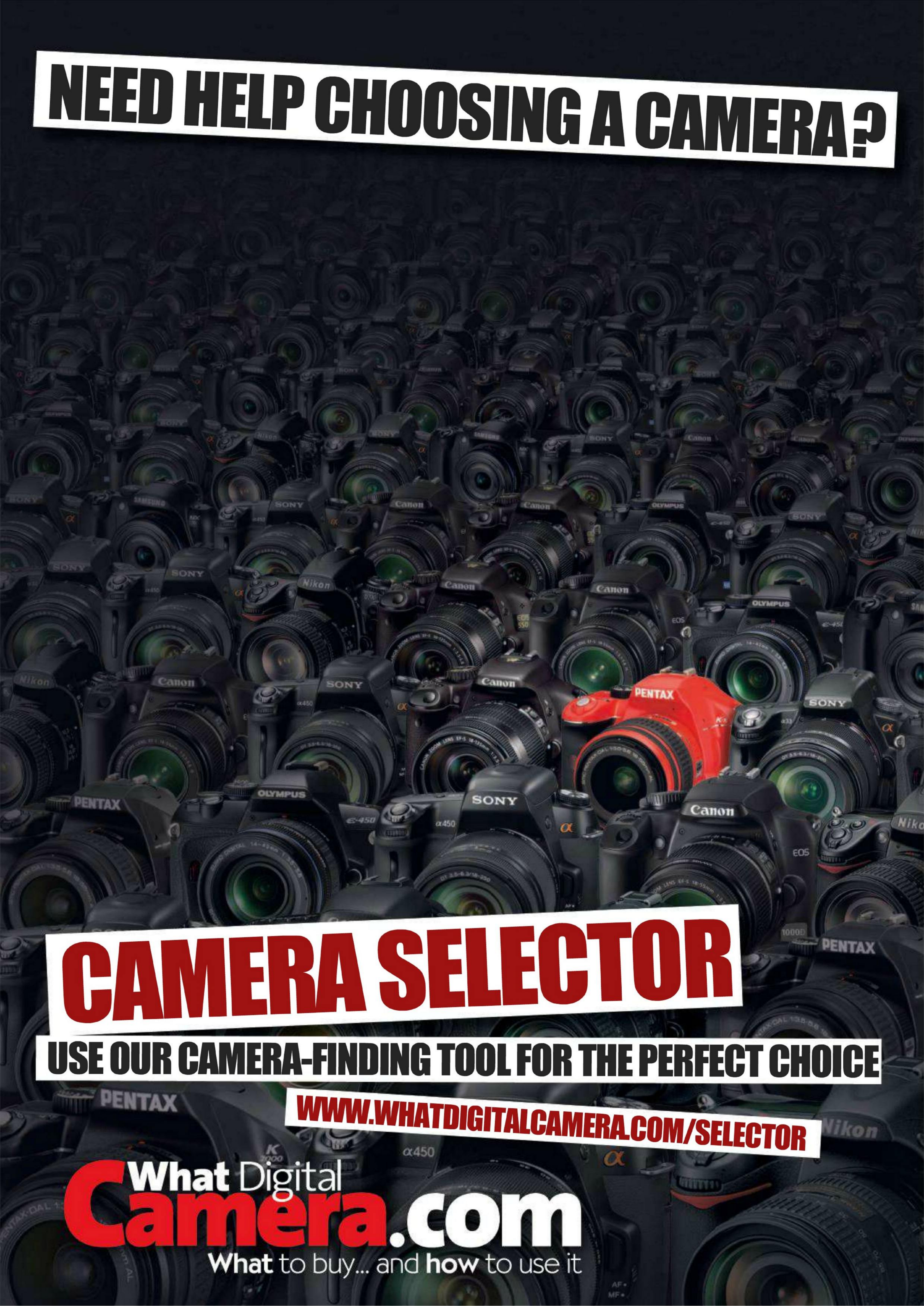

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## 18-270mm

F/3.5-6.3 DI-II VC PZD

| | |
|---|---|
| **PROS** | **Massive 15x zoom range** |
| **CONS** | **Disappointing MTF results** |

This model offers good ergonomics, with a textured rubber zoom grip. The AF system, while not especially quick, proved very reliable in field testing. Chromatic aberration is insignificant at wide and normal settings, but appear at longer focal lengths, with sharpness also suffering here. Overall it seems that Tamron has been just a bit too ambitious in this lens, which is a shame given how useful the focal range is.

**83%**

## SP 70-300mm

F/4-5.6 DI VC USD

| | |
|---|---|
| **PROS** | **Internal focusing** |
| **CONS** | **Heavy and costly** |

The lens is very nicely balanced and easy to cradle thanks to its broader-than-average diameter. The focusing action is perhaps a little slow but not so sluggish as to be a problem. The vibration control (VC) system, on the other hand, is excellent. Technical testing revealed some excellent figures at 70mm and 135mm and even the 300mm setting was respectable. Overall, a good combination of features and performance.

**89%**

## SP AF200-500mm

F/5-6.3 DI LD (IF)

| | |
|---|---|
| **PROS** | **Multi-format image coverage** |
| **CONS** | **Very poor image quality at 200mm** |

Tamron's superzoom is well-balanced. The satin-black exterior blends well with a DSLR and the lens markings are clear and readable in either white or gold. AF operation is brisk but not overwhelmingly speedy. Manual focusing is surprisingly easy and comfortable. The zoom ring, which requires much more effort, moves through about 180° versus about 60° for focusing. As well as a very long, reversible, cylindrical lens hood there is a rotating collar that allows filters to be adjusted when the hood is in place. The tripod platform is also removable, but without it the lens is much harder to handle.

Optically, the Tamron superzoom is impressive. It performs least well at 200mm and at f/32 for all focal lengths but these are the least critical areas in the usage of such a lens. Overall, you have to agree that Tamron has done well to achieve so much at such a relatively affordable price level.

**90%**

# Tokina

## AT-X 16-28mm

F/2.8 Pro FX

| | |
|---|---|
| **PROS** | **Solid all-round performance** |
| **CONS** | **No manual focus in AF mode** |

First impressions of this lens are excellent. It has a solid feel and is fitted with a rubber weather-resistant seal at the rear. There is a fixed petal-type lens hood at the front, surrounding a bulbous front element, over which slips a rubber lens cap.

In AF mode, focusing is both quick and quiet but not silent as Tokina claims. Image distortion is very nearly non-existent. There is a hint of barrelling at the 16mm setting and just a touch of distortion at 28mm but so subtle that most users would probably fail to spot them.

MTF testing, meanwhile, reveals a solid set of results. There is no evidence here to suggest that any corners have been cut along the way and Tokina's zoom therefore deserves serious consideration.

**93%**

## AT-X 16.5-135mm

F/3.5-5.6 DX

| | |
|---|---|
| **PROS** | **Compact size** |
| **CONS** | **Visible chromatic aberration** |

Tokina's 16.5-135mm zoom might be the only lens that some users ever need. It is well designed, although the zoom ring feels rather stiff in use. Technical testing revealed a solid performance for mid-range aperture settings but wider apertures are generally weaker, which is a shame in a lens that does not have a particularly fast maximum aperture, while chromatic aberration was evident in real-world pictures.

**86%**

## AT-X PRO D 100mm

F/2.8 Macro

| | |
|---|---|
| **PROS** | **Good value for money** |
| **CONS** | **Limited range of lens mounts** |

Despite featuring two rings, the 100mm macro is a prime lens with the rear ring a stylistic addition. Autofocus is quick and reliable, albeit rather noisy, although manual focus is silky smooth. The lens performs well in technical testing conditions, with results only dropping off above f/16. Overall, Canon and Nikon users would do well to consider this lens as an alternative to their own manufacturers' 100mm macro lenses.

**88%**

# CSC lenses

A range of lenses from a selection of Compact System Cameras, with everything from prime to telephoto optics covered

## Olympus 14-22mm
F/3.5-5.6 ED

**PROS** Clever lens 'parking'

**CONS** Chromatic aberration

£300

This lens features a clever 'parking' system, making it much more compact when stowed than when in use, giving the camera-and-lens combination the air of a high-spec fixed-lens compact rather than a full DSLR-like feel.

The zooming collar has a short throw and a smooth action, while manual focusing is achieved using the narrow collar at the front of the outer barrel: this falls comfortably to hand when required.

The AF system works well and though the lens lacks image stabilisation, Olympus PEN cameras have this built-in. Resolution figures stay above 0.25 cycles-per-pixel across the aperture range down to about f/14 with just a slight drop wide-open at the 42mm setting.

The most serious weakness is magenta fringing, especially at 14mm, that is present when demanding subjects are photographed.

Overall though, this is a well-designed lens that offers good performance at a reasonable price.

88%

## Leica Macro 45mm
F/2.8 Aspherical

£730

**PROS** Great for AF macro work

**CONS** Huge price

Let's not beat about the bush: this is an amazing lens that has every bell and whistle, not to mention the Leica seal of approval, as well as being a true macro that works brilliantly in AF mode. The AF system is quiet and quite quick, but not blindingly so, while manual intervention is possible via the only collar on the lens.

Test results are a shade disappointing at the ends, but good across the most-used apertures from f/4 to f/8.

Optical Image Stabilisation (Mega OIS) is built into the lens and controlled from the camera body. This works well, without any of the jitters that some other systems produce. A focus limiter restricts the minimum object distance to 0.5m for normal photography and allows focusing down to 0.15m in macro mode.

When considered as an 'ordinary' prime lens Leica's 45mm lens is distinctly expensive but its true macro capability puts it firmly into the macro lens arena, where its price can be more easily justified. If you will use all its features then the price may be worth paying.

91%

## Olympus 12mm
F/2.8

£739

**PROS** Classic rangefinder-lens feel

**CONS** Some signs of chromatic aberration

In an age when plastics are often used in lens manufacturing it comes as an absolute delight to find that the M.Zuiko 12mm f/2 lens is not only metal-cased but also feels solidly-built and has a very tactile satin finish.

Olympus calls its manual focusing option 'Snapshot Focus' on account of the fact that the lens can be adjusted unobtrusively, without looking at the rear-mounted viewing screen. The manual focusing mechanism is silky smooth and feels just like a classic metal-bodied rangefinder lens. While the f/2 aperture provides a good headline it's hard to exploit its full potential using an all-electronic camera, which in turn makes its high price tag a little hard to swallow. There is no doubt, however, about the exceptional sharpness figures this lens achieved in testing. In summary, especially build-quality, handling and sharpness, this is clearly an outstanding, if somewhat costly, lens.

95%

## Olympus 17mm
F/2.8

**PROS** Compact design

**CONS** Slight MTF weakness

As the first Olympus lens for the Micro Four Thirds system, the 17mm f/2.8 can be viewed as having defined the standard for prime lenses. Its design hugs the front of the camera and protrudes no more than about 25mm, with the only control being a manual-focus ring which drives the focusing mechanism electronically.

Its smaller maximum aperture means that the lens also has a reduced front element and a small lens cap that verges on being fiddly to fit. The moving part of the lens looks a little flimsy but that may be an unjustified concern. One of the great things about the pancake design is the fact that it does not intrude into the illumination area of the pop-up flashgun.

The MTF chart shows that optimal resolution is maintained from wide-open to just beyond f/8: this is a reasonable performance but it is nothing to write home about and when fully closed-down the lens records just 0.15 cycles-per-pixel. Overall this is a good lens but it doesn't shine brightly – it would benefit from a little more versatility, but if a truly compact combination is needed then the Olympus 17mm is always going to hold appeal.

87%

£850

## Lumix 20mm

F/1.7

**£350**

**PROS** f/1.7 fast aperture

**CONS** Slightly noisy AF

If the Lumix G 20mm f/1.7 is to be adopted as a standard lens, then it has to be highly usable and exceptionally well-behaved. The good news is that it meets both of these demands admirably. The only control on the lens itself is a manual-focus ring, use of which automatically enlarges the viewfinder image.

As this is a 'pancake' lens that protrudes only 26mm from the front of the camera, it would be reasonable to expect the lens to feel cramped – but it doesn't. There is no aperture ring, no distance read-out and no depth-of-field scale, but those who are going to use the Micro Four Thirds system will include relative newcomers to photography who are unlikely to require such old-fashioned things.

Far more important is the optical performance of the lens. Its MTF performance is good and, though some colour fringing can be found if searched for, it is not a problem in real-world images. The only serious disappointment is its rather slow and slightly noisy AF mechanism.

**89%**

## Lumix 14-45mm

14-45mm f/3.5-5.6 Aspherical Mega OIS

**£280**

**PROS** Great all-rounder

**CONS** Nothing really

Handling for the 14-45mm lens is excellent thanks to an unfussy design and a logical layout. The AF system is brisk, accurate and virtually silent. As with other lenses, manual intervention is possible in AF mode via an electrically driven rather than mechanical linkage. The resistance on both collars is just about perfect, though the zoom lacks a little smoothness.

Resolution test results exceeded expectations given the price, and while there was a trace of chromatic aberration at 14mm, this was not visible in real-world images. To cap this solid performance, the lens incorporates Panasonic's Optical Image Stabilisation, which is effective and unobtrusive. Overall this is a really nice lens. In its own way, this versatile and well-equipped lens is every bit as good as the 7-14mm zoom at a fraction of the cost.

**93%**

## Lumix 7-14mm

F/4.0 Aspherical

**PROS** Ultra-wide angle-of-view

**CONS** Very high price

**£1300**

Externally there is a bulbous front element that is protected by a fixed petal-type lens hood, over which a slide-on cap protects the lens when not in use. The zoom ring is located closest to the camera body, with the manual-focus ring beyond. Manual focusing is done electronically rather than manually and is aided by an enlarged viewfinder image (where available). At the shortest focal-length, great care must be taken to keep the camera parallel to any objects that are to be correctly rendered without converging verticals, but there is no hint of geometrical distortion.

Technical testing reveals good MTF results from maximum aperture down to about f/13, suggesting that the lens is likely to perform well in most situations.

Despite being larger than other CSC lenses, the Lumix 7-14mm is a pleasure to use and allows some very dramatic compositions to be recorded. It is hardly an everyday lens, but it's certainly an admirable beast in more ways than one.

**94%**

## Lumix 100-300mm

F/4-5.6 Mega OIS

**PROS** "600mm" equivalent angle-of-view

**CONS** Poorer performance at longer focal lengths

Partly due to its streamlined design and partly thanks to perfect positioning of the zoom ring, this is a lovely lens to use in the field. Sports, action and nature subjects are all within its grasp thanks to a reliable AF system, and the optical image stabiliser does a superb job of steadying the viewfinder image. The maximum aperture shrinks from f/4 at 100mm to f/5.6 at 300mm but this is a very acceptable limitation. Results are best at the shorter focal length, where best sharpness was achieved. The zoom's technical results are variable, although on the other hand, chromatic aberrations are all but absent, meaning there is only slight softness (rather than any colour fringing) to contend with.

Overall, this is an impressive lens. And so compact as to be readily carried for long spells in the field.

**89%**

**£550**

## Nikon 10mm
F/2.8

**PROS** No moving parts

**CONS** Small sensor size limits creativity

£229

There are no moving parts whatsoever on the outside of the lens: there is what appears to be a rotatable ring but in fact this is totally cosmetic. All aperture and focusing adjustments are applied via the camera's menu interface. On the downside this is inconvenient, however on the upside it means that there are no tiny gaps through which rain or sand might enter the lens and impede its operation.

In manual-focus mode the OK button activates an enlarged view of the scene, which can be moved and rescaled without the need for Twister-like contortions across the back of the camera. Similarly, in Aperture Priority mode the aperture setting is directly adjustable via the up/down toggle on the top edge of the back-plate. The aperture range offered by Nikon's 10mm lens extends from f/2.8 to only f/11, which is distinctly restricted for a lens of this type.

In technical testing, there were clear signs of chromatic aberrations on the high-contrast test target. Nevertheless, and as is often the case, real-world photographs proved to be almost totally free from colour fringes – although there was some issue with image noise, which may be attributable to the small sensor size on Nikon's 1 series. The 1 Nikkor 10mm prime lens avoids barrel distortion that's far more prominent in the 10-30mm zoom at the wide end. That's one of the biggest reasons to consider the 10mm prime lens as a potential purchase.

87%

## Samsung 20mm
F/2.8 NX iFunction Pancake

£250

**PROS** Slim design

**CONS** Pancake design means cramped lens controls

Samsung's 20mm lens protrudes just 24mm forward of the camera's lens flange. Aesthetically, the result is very pleasing but the ultra-short lens barrel means compromises have to be made. There is just one push-button switch and one rotating ring used to activate and control the camera's iFunction system respectively.

Given that Samsung's NX cameras use a large APS-C format sensor, the conversion factor used to work out 35mm-equivalent lenses is just 1.5x, which gives the 20mm lens tested here the same angle-of-view as a 30mm lens used on a full-frame camera body.

Technical testing returned slightly lower MTF figures at wide apertures but the figures remained good from f/2.8 to f/11. There were slight signs of chromatic aberration visible on the test targets but nothing significant. Real-world use of the lens proved highly satisfying, not least because its angle-of-view matches the area that the human eye concentrates on when absorbing a scene. Doubtless there are fixed-lens compact cameras that undercut and out-gun the Samsung 20mm f/2.8 used in combination with an NX200 body, but when you really put the focus on the optics under test conditions, you have to say Samsung's offering comes out on top for sheer class and quality.

92%

## Sony 16mm
F/2.8 Pancake

£220

**PROS** Lens converters

**CONS** Awkward camera-based controls

This is a very simple lens in that it comprises just five elements, each of which constitutes its own group. There is only one control on the lens – a rotating ring that occupies the front half of the barrel. Provided that DMF mode is selected on the camera body, this ring allows the user to apply manual focusing corrections in AF mode using an enlarged view of the scene. The lens performed well in technical testing with regards to sharpness, and although chromatic aberrations were present, they disappeared in real-world images.

Two lens converters extend the versatility of Sony's 16mm lens, offering the conversion of this lens to either a 12mm or fish-eye focal lengths. Overall this is a capable and well-priced prime lens that is let down slightly by its reliance on camera-based controls and some edge softness, but does benefit from the potential of two dedicated lens converters.

89%

## Samsung NX 60mm
F/2.8 Macro ED OIS SSA

**PROS** Solid all-round performance

**CONS** Lens barrel can snag on tripod-mounting platforms

Although the considerable size and mass of Samsung's 60mm Macro lens inspire great confidence they also mean it is likely to dwarf any NX body to which it is attached. This is not simply a cosmetic observation: the fact is that when securing the host body on a tripod there is a real danger that the mounting plate may snag on the lens barrel instead of sitting flatly against the camera's base-plate.

The 60mm Macro's handling is excellent, with a large focusing ring located in the front third of the barrel and a much smaller controller ring (for iFunction operation) towards the rear.

Internally there is an Optical Image Stabiliser and a Super-Sonic Actuator AF system, while the OIS system is smooth and unobtrusive but effective.

Technical testing revealed a good set of results at a range of apertures, while real-world testing produced very good results in both large-scale and macro applications.

There is nothing, other than its tendency to snag on a tripod-mounting plate, to dislike about this lens. Yes, it would be nice if it were a little less expensive but the results it delivers go a long way towards justifying its price. This really is a very nice lens indeed.

92%

£530

# Abbreviations

What does EF mean? What is an Aperture? Find out in our handy guide

## A GLOSSARY

**APOCHROMAT**
A lens designed to bring two separate wavelengths of colour to the same point and therefore minimise chromatic aberration, by using different types of glass.

**APERTURE**
The size of the opening of a lens through which light is able to pass.

**COATING**
Fine layers of film used to coat individual elements within a lens, to help with light transmission and to prevent aberrations such as flare and ghosting.

**CONCAVE**
A surface which curves inwards towards a central point.

**CONVEX**
A surface which curves outwards away from a central point.

**DIAPHRAGM**
The opening formed by the blades inside a lens which control the aperture.

**DISPERSION**
The breaking up of light into individual wavelengths as it passes through a lens.

**ELEMENT**
A single piece of glass used within a lens. Elements are arranged in groups depending on their physical properties.

**INTERNAL FOCUSING**
Lenses which focus by moving a particular group of elements inside a lens, meaning that the front of the lens doesn't need to rotate. This is especially useful for when using filters so their alignment is kept the same.

**MOUNT**
The fitting of a lens which corresponds only to certain camera bodies. Independent manufacturers such as Sigma and Tamron make the same lens available in various mounts for different systems.

**REAR FOCUSING**
Focusing achieved by moving a group of elements towards the end of the lens, not affecting the physical length of the lens while focusing.

**REFRACTION**
The action of light 'bending' as it passes through a medium such as glass. The ultimate role of a lens is to refract light back to one point as it hits the sensor, thereby producing an accurate reproduction.

**VIGNETTING**
A gradual darkening of the edges and corners of an image, usually a result of using wide apertures. Stopping down the aperture helps to minimise the effects of vignetting while using filters can increase it.

## A TO Z OF LENS TECHNOLOGY

| | |
|---|---|
| **AD** | Tamron Anomalous Dispersion elements |
| **AF-DC** | Nikon defocus feature |
| **AF-S** | Nikon lenses with Silent Wave Motor |
| **APO** | Sigma Apochromatic lenses |
| **AS** | Tokina lenses featuring aspherical elements |
| **ASL** | Tamron lenses featuring aspherical elements |
| **ASP** | Sigma lenses featuring aspherical elements |
| **AT-X** | Tokina's Advanced Technology Extra Pro range of lenses |
| **CONV** | Sigma lenses compatible with teleconvertors |
| **CRC** | Nikon's Close Range Correction system |
| **D** | Nikon lenses that can be used on manual focus cameras |
| **DA** | Pentax lenses optimised for APS-C sized sensors |
| **DC** | Sigma's designation for digital lenses |
| **DF** | Sigma lenses with dual focus facility |
| **DG** | Sigma's designation for digital and full-frame lenses |
| **Di** | Tamron lenses designed for full-frame sensors |
| **Di-II** | Tamron lenses designed for APS-C sized sensors |
| **DO** | Canon lenses with a diffractive optical element |
| **DS** | Tokina lenses with Super Low Dispersion Glass |
| **DT** | Sony lenses optimised for APS-C sized sensors |
| **DX** | Nikon's designation for digital lenses |
| **ED** | Nikon lenses featuring Extra Low Dispersion elements and Olympus and Leica (Panasonic) lenses with low dispersion elements |
| **EF** | Canon's designation for full-frame lenses |
| **EF-S** | Canon lenses designed for APS-C sized sensors |
| **EX** | Sigma's 'Excellent' range |
| **F&R** | Tokina lenses featuring aspherical elements |
| **FC** | Tokina's Focus Clutch Mechanism |
| **FE** | Canon's fisheye lenses |
| **FE** | Tokina lenses featuring a floating element |
| **G** | Nikon lenses without a manual aperture ring |
| **HF** | Sigma's designation for Helical Focusing |
| **HID** | Tamron's High Index Dispersion glass |
| **HLD** | Tokina's High refractive/low dispersion glass |
| **HSM** | Sigma's lenses with a Hypersonic Motor |
| **IF** | Sigma/Tamron/Nikon/Tokina Internal Focusing |
| **IRF** | Tokina's Internal Rear Focusing lenses |
| **IS** | Canon's Image Stabilised lenses |
| **L** | Canon's 'Luxury' range of lenses |
| **LD** | Tamron lenses featuring Low Dispersion glass |
| **MC** | Tokina lenses that have been Multi-Coated |
| **N** | Nikon's Nano Crystal Coating |
| **OS** | Sigma's Optically Stabilised lenses |
| **PRO** | Tokina's Professional range of lenses |
| **RF** | Sigma and Nikon lenses with Rear Focusing |
| **SD** | Tokina's Super Low Dispersion element |
| **SDM** | Pentax's Sonic Direct Drive Motor |
| **SF** | Canon lenses with Softfocus feature |
| **SHM** | Tamron's Super Hybrid Mount |
| **SIC** | Nikon's Super Integrated Coating |
| **SLD** | Sigma lenses with Super Low Dispersion elements |
| **SP** | Tamron's Super Performance range |
| **SSM** | Sony/Minolta Supersonic Motor lenses |
| **SWD** | Olympus lenses with Supersonic Wave Drive |
| **SWM** | Nikon lenses with a Silent Wave Motor |
| **TS-E** | Canon lenses with Tilt and Shift function |
| **UD** | Canon lenses with Ultra Low Dispersion glass |
| **USM** | Canon lenses with an Ultrasonic Motor |
| **VC** | Tamron's Vibration Compensation feature |
| **VR** | Nikon's Vibration Reduction feature |
| **XR** | Tamron's lenses with Extra Refractive Index glass |
| **ZL** | Tamron's Zoom Lock feature |

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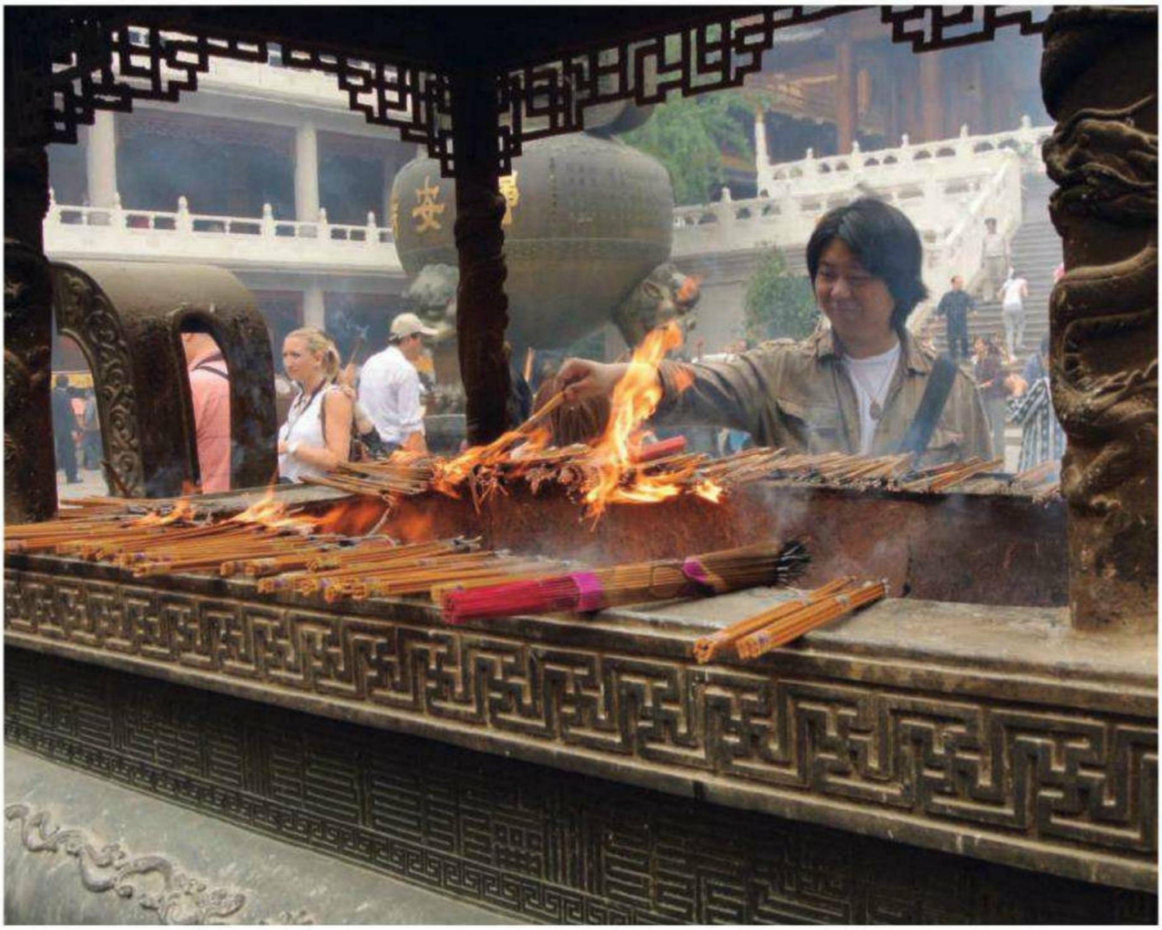
**See the Nikon V1 in action**



Tones and sharpness are impressive, but dynamic range somewhat lacking from the Nikon V1

the other features that many serious hobbyists would expect are missing too – for example, there's no auto-bracketing (which would be very useful with that fast burst mode), no control over the dynamic range other than D-Lighting on/off and no highlight clipping display.

There are some annoying operational quirks too, such as the camera's inability to shoot video in any mode other than movie mode, despite the presence of a separate movie record button implying that it should.

The V1's use of a larger DSLR battery (the same as the one used in the D7000) may make the camera bigger but at least the battery life is a respectable 400 or so shots, double that of the J1.

## Image quality

Images from the V1 are very good considering the size of its sensor, but not compared with other cameras of a similar cost, all of which have much bigger sensors. Although exposure and white balance are generally accurate, and colours vibrant, the sharpness, noise and dynamic range are bettered by most other cameras at this price, and they can produce shallower depth of field at the same field of view and aperture. That said, high-quality A3 prints at ISO 1600 are entirely possible. The lenses are sharp but the 10-30mm zoom suffers pronounced barrel distortion at 10mm, as does the 30-110mm at 30mm to a lesser extent. The 10mm f/2.8 pancake is the best of the trio we tried.

## Value

The V1 is likeable enough but its £829 price tag, especially considering the competition, is extremely high for a camera with a small sensor, no flash, and (so far) a very limited range of additional lenses and accessories – unless you particularly want those unique features.

Instead of a built-in flash the V1 offers an electronic viewfinder

## VITAL STATISTICS

**SENSOR**
10.1MP CMOS (13.2x8.8mm)
**KIT PRICE**
£829 with 10-30mm lens
**LENS MOUNT**
Nikon 1
**IMAGE STABILISATION**
Vibration Reduction in the zooms
**MOVIE MODE**
1080 (30p/60i) HD video, slow-motion
**LCD**
3in wide, 921k-dot LCD
**VIEWFINDER**
1.44-dot electronic viewfinder with 100% coverage
**AF TYPE**
Contrast/Phase Detect AF, 135 points
**ISO**
100-3200 (extendable to 6400)
**METERING**
Matrix, centre-weighted or spot
**BURST SPEED**
10, 30 or 60fps
**WEIGHT**
383g with battery and card (no lens)
**DIMENSIONS**
113 x 76 x 43.5mm

**VERDICT** **The V1 is beautifully made, fun to use, has an excellent built-in EVF and delivers good-quality pictures in most situations. The problem is that it isn't clear who it's for, and so it falls between two stools. If it's aimed at the mass market consumer the V1 is too expensive and not including a flash is commercial suicide. The V1 won't appeal to the serious enthusiast, due to its emphasis on gimmicks over user control and the images aren't as good as that of cameras costing half as much which makes the V1 tricky to recommend.**

| SCORE | Features | Performance | Design | Image quality | Value | |
|---|---|---|---|---|---|---|
| | 17/20 | 16/20 | 18/20 | 17/20 | 15/20 | 83% |

**£799**

| PROS | CONS |
|---|---|
| Built-in flash, fast AF, OLED | Poor subject tracking, expensive, poor battery life |

The rapid autofocus is perfect for capturing quick snaps accurately

# Olympus PEN E-P3

## With the world's fastest autofocus system, is the Olympus PEN E-P3 the best Compact System Camera yet?

The latest PEN adds a much-needed built-in flash gun, an updated AVCHD movie mode and, the biggest headline feature of them all, the world's fastest autofocus system. The E-P3 claims to even outdo DSLR autofocus speeds, but can it truly deliver performance like no other?

### Features

The E-P3 has a 12.3MP Micro Four Thirds standard Live MOS sensor at its core, coupled with a new and improved TruePic VI image processing engine. Unlike many other manufacturers, Olympus has so far refused to up the megapixel count, instead relying on that 'sweet spot' of enough resolution married with decent final quality as a result of not over-populating the sensor. In the latest incarnation stills sensitivity ranges from ISO 200 all the way up to ISO 12,800 at full resolution.

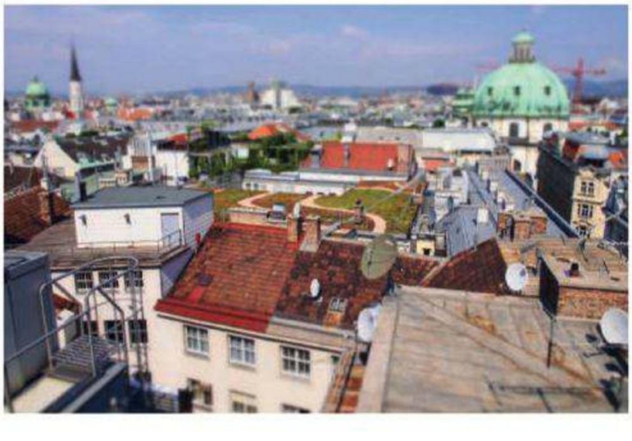
Gone is the LCD technology as found on the previous E-P2 model, with the E-P3 embracing the new: on the rear is a 3in, 610k-dot OLED (Organic Light Emitting Diode) screen for lower power consumption, improved black-to-white contrast ratio and more fluid playback. Not only that but it's touch-sensitivity means touchscreen control. There is no built-in viewfinder, however, though the Olympus Accessory Port and hotshoe is available for any additional accessories.

The E-P3's new 'FAST (Frequency Acceleration Sensor Technology) AF' is said to be the world's fastest, and is achieved by using a faster sensor that now outputs at 120 frames per second (twice the refresh rate over the previous E-P2's 60fps outage) coupled with an improved AF unit, new focusing algorithm and a control system that's always ready to go when the shutter's pressed. A new AF illuminator lamp also features for focus assist in darker conditions.

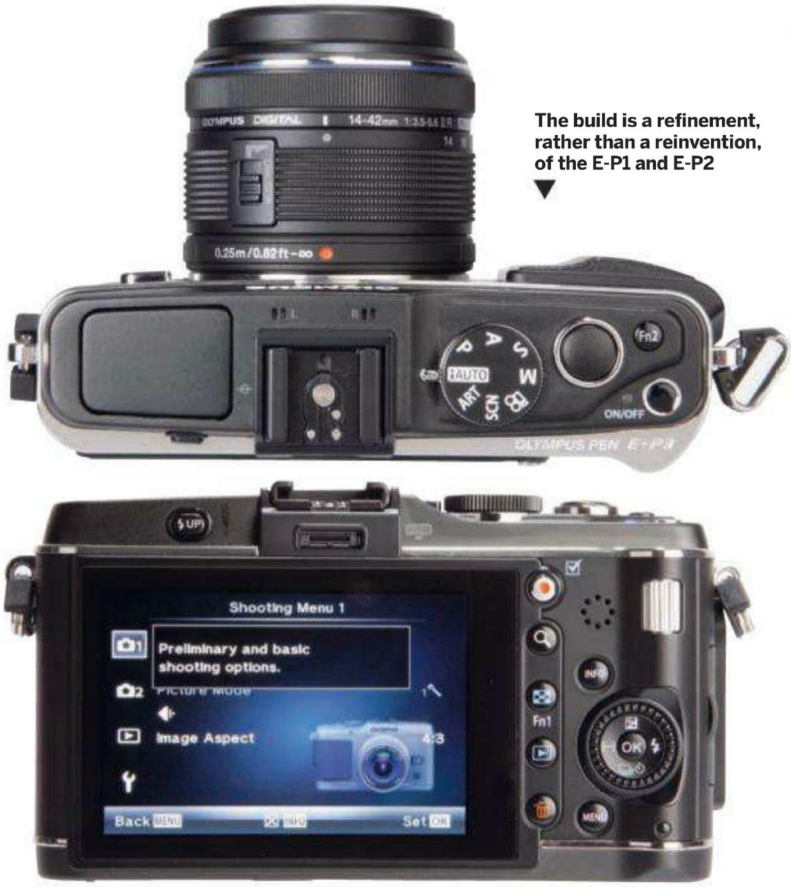
As well as stills the E-P3's movie mode now offers AVCHD or Motion-JPEG capture at Full HD 1080i. An on-board microphone captures stereo sound and although there's no 3.5mm jack for external microphones the Accessory Port can accommodate the Olympus SEMA-1 microphone (sold separately).

The new built-in flash gun is a much-needed addition to the range, plus the inclusion of wireless control means it's possible to fire off-camera

One of the many effects modes on the E-P3 is the Miniature mode, which simulates the effect of a tilt/shift lens



**See the E-P3 in action**



**The build is a refinement, rather than a reinvention, of the E-P1 and E-P2** ▼

## VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 12.3MP Live MOS |
| **FILE FORMATS** | Raw (ORF), JPEG, Raw + JPEG |
| **SHUTTER SPEEDS** | 2-1/4000th second, plus Bulb |
| **IMAGE STABILISATION** | Yes, sensor shift |
| **DUST REDUCTION** | Yes |
| **ISO** | 200-12,800 |
| **EXPOSURE MODES** | P, S, A, M, iAuto, Art, Scene (23 scene modes) |
| **METERING SYSTEM** | 324 zone Multi-pattern Sensing System |
| **WHITE BALANCE** | Auto, 7 preset |
| **DRIVE MODE** | Single, Cont, Timer |
| **MOVIE MODE** | 1080i HD video |
| **SCREEN** | 3in, 610k-dot OLED touchscreen |
| **VIEWFINDER TYPE** | Optional EVF |
| **FOCUSING MODES** | Single, Cont, Manual, Tracking |
| **AF POINTS** | 35 selectable points |
| **MEMORY CARD** | SD (HC/XC) |
| **CONNECTIVITY** | Hi-Speed USB, HDMI |
| **POWER** | Rechargeable Li-ion |
| **WEIGHT** | 321g |
| **DIMENSIONS** | 122 x 69.1 x 34.3mm |

flash guns too. Such high-end features are what makes the PEN stand out from the crowd.

As is synonymous with the PEN range, the E-P3 continues the legacy of Art Filters. There are 10 main options in total – including Sepia, Dramatic Tone, Grainy Film and more – plus some can be 'stacked' together for more dramatic results.

## Design

Design-wise the E-P3 doesn't look too different from the E-P2 model that came before. The metal finish body is the same size as before, as this area of the PEN range is more about style than miniaturisation. The addition of the built-in flash does mean that the arrangement is now slightly different, with the mode dial shifting to the shutter button side of the camera. It's a good looking camera, though not as 'compact' as some competitors.

## Performance

First thing's first: the E-P3's super-fast autofocus system. It's a much-needed improvement that's far faster than previous-generation PEN models and whizzes into place when targeting static subjects or wider scenes. However, and here comes the 'but', Olympus's in-house claim that it's the 'world's fastest' doesn't apply to all situations. Sat side by side with a Panasonic Lumix G3 the focus is very, very similar. Where this differs, however, is once focus is acquired – the E-P3 will always quickly browse the nearby range when re-focusing, even when shooting the exact same frame, whereas the Lumix G3 will immediately acquire focus without searching the range, thus making it the faster of the two in this scenario. Furthermore the E-P3's Subject Tracking AF just isn't up to scratch. Although Continuous AF (AF-C) is great to have, it's outsmarted in lower lighting conditions and doesn't update rapidly enough for successful tracking on all occasions. Again, a decent-spec DSLR will perform better in such a scenario. So although the E-P3's focus is definitely very, very fast, it's just not the best overall AF system out there. That's not to detract from its merits however – it's a vast and welcome improvement.

The new OLED screen is a great thing to behold, though bright sunlight will be problematic when it comes to composing. The touchscreen mechanism is sensitive and useful for pinpointing focus by pressing a finger to the screen itself, though do watch out for the 'bordered off' edge that prevents full edge-to-edge focusing.

One of the E-P3's main drawbacks is that the battery life is only good for around 300-330 shots from a full charge, which is too few for an enthusiast camera.

## Image quality

For a Micro Four Thirds sensor the E-P3 does a sterling job when it comes to the images. By not overpopulating the sensor (12.3MP is an ideal resolution), the results from ISO 200-800 are impressive and detailed. It's a shame there's no ISO 80 or 100 option however. In lab tests the finer detail diminishes at ISO 1600, and this progresses further at ISO 3200. Colour noise is only a subtle background hint from ISO 1600 and above, though by ISO 6400 it becomes more noticeable and by ISO 12,800 a wash of red colour noise is to the point of problematic. All in all there's plenty of detail considering the smaller sensor size, something which shows that keeping the resolution to a 'safe' level really pays off.

## Value

Since its launch the PEN range hasn't been targeted at the 'budget' end of the market. The E-P3's RRP is £799 with the 14-42mm kit lens which makes it among the more expensive of Compact System Cameras. It is, however, a good £120 less than the E-P2 was upon its launch, so at least that's a step in the right direction.

**At low to middle ISOs detail is superb, with little smoothing evident**

**VERDICT** **The E-P3 is an impressive Micro Four Thirds camera. It's well built, looks the part and takes great pictures. The inclusion of a new built-in flash and AF illuminator lays to rest the complaints about earlier models. Furthermore the FAST AF system is a huge step forward for the PEN, though the tracking modes aren't up to scratch for action shots. Although there's no built-in viewfinder and £800 isn't cheap in this market, there's a lot going for the E-P3. This is certainly the best PEN yet, and is among the best CSCs on the market.**

**SCORE** Features 17/20 Performance 18/20 Design 18/20 Image quality 18/20 Value 17/20 **88%**

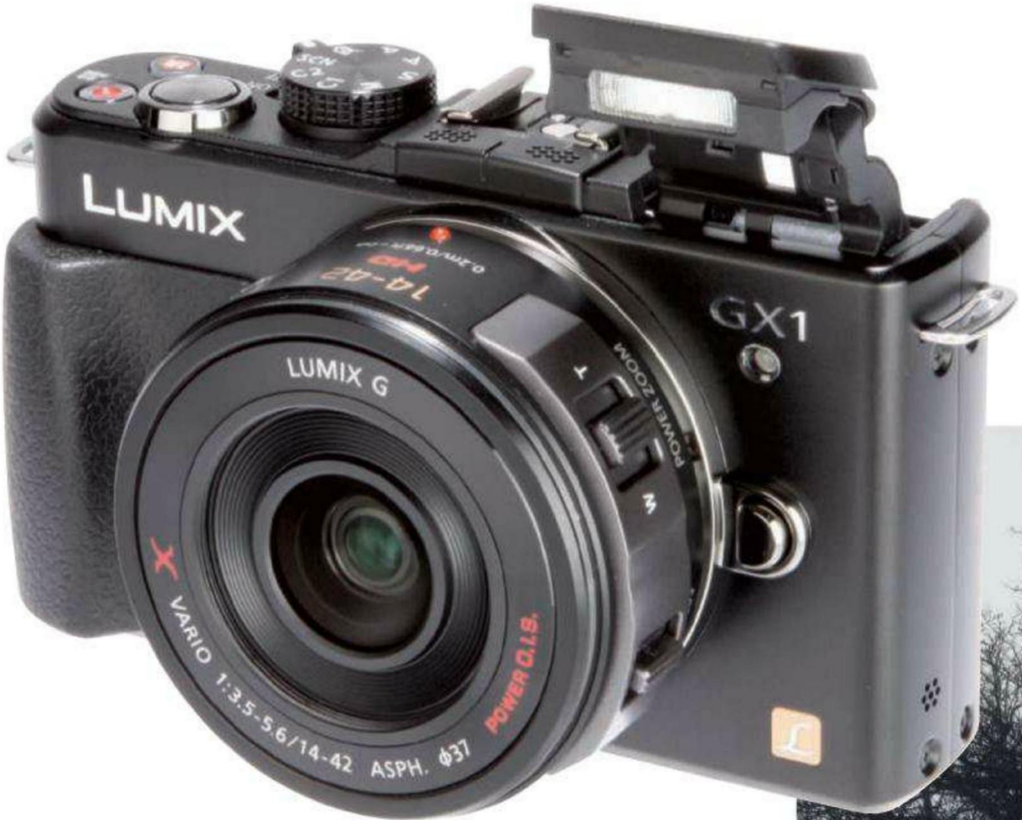
**£749**

**PROS**

Great build quality, intuitive layout, super-fast autofocus, hotshoe, good balance of system size to image quality

**CONS**

Expensive, power zoom lens zooms too slowly, movie mode outclassed by competition, battery life could be better



# Panasonic Lumix GX1

## The Lumix we've been waiting for: Panasonic's high-end Compact System Camera mixes premium design with a solid spec...

This aluminium-built, high-quality yet compact model marries together aspects of the consumer-friendly and small-bodied GF series with the hands-on, more advanced controls that are a G-series mainstay. Is the Panasonic Lumix GX1 a sensible choice for more demanding photographers or is it just a little bit too pricey and indifferent to its fellow G-series models to be worthy of purchase?

### Features

The GX1's innards are familiar fare. The same 16MP Micro Four Thirds Live MOS sensor as found in the Lumix G3 is at the GX1's core, while the 23-Area focus system, 144-zone metering system, 1080i HD movie mode and 3in, 460k-dot touchscreen LCD also make the transition.

The GX1 keeps Panasonic's super-fast 'lightspeed' autofocus system but tweaks it a stage further for a fastest-ever 0.09sec focus acquisition time. A 4.2 frames per second continuous burst mode also means the GX1 is speedier than the G3.

Although there's no viewfinder the GX1 introduces a new accessory port that's compatible with the 1.44m-dot DMW-LVF2 electronic viewfinder (EVF). But it's the camera's exterior and build quality that makes it what it is. The metal buttons, aluminium body and shaped leather handgrip give the GX1 a premium edge like no other G-series camera.

### Design

The GX1 may be small, but the onus is on providing all the hands-on controls that demanding photographers require.

There's a main mode dial on the

▲ **Even in black and white the Lumix GX1's impressive tonal range is clear to see**

the 23-Area focus system, 144-zone metering system, 1080i HD movie mode and 3in, 460k-dot touchscreen LCD also make the transition.

The GX1 keeps Panasonic's super-fast 'lightspeed' autofocus system but tweaks it a stage further for a fastest-ever 0.09sec focus acquisition time. That makes it the quickest G-series model to date. A 4.2 frames per second burst mode also means the GX1 is speedier than the G3.

Although there's no viewfinder the GX1 introduces a new accessory port that's compatible with the 1.44m-dot DMW-LVF2 electronic viewfinder (EVF). Good news for those new to the fold, assuming the £200 supplementary price-tag doesn't put people off. The GX1 also introduces an LCD level gauge for horizontal and vertical alignment assessment.

But it's the camera's exterior and

See the GX1 in action

The design is minimal, but the buttons aren't too cluttered

camera's top, next to which are two buttons – one is for movie mode and the other glows blue when pressed to show that iA (intelligent Auto) is activated. On the camera's rear there's a thumbwheel, four-way d-pad, two programmable function (Fn1/2) buttons, plus separate Q.Menu (Quick Menu), Display, AF/MF and AF/AE lock buttons.

In use everything feels right; the GX1's layout is intuitive and leaves little to be desired when it comes to controls. The premium build also makes the camera feel that extra bit special. No other G-series camera has been made to this standard, and it really shows.

## Performance

A fast start-up time is met with Panasonic's super-fast 'light speed' autofocus system. Although the focus is near instant to acquire subject focus, fast-moving subjects and low-light scenarios will throw a bit of a spanner in the works. As with any contrast-detection system, subjects with limited contrast can also cause problems. The GX1's touchscreen is also ideal for quick and easy 'one-press autofocus' by pressing a finger onto the screen itself. As a method to quick-adjust the focus area and then continue to shoot it's a great option to have.

A high-speed burst mode of 4.2fps can capture up to nine frames before a pause when shooting Raw & JPEG files. Although it will take 30 seconds to clear these files to the card it's still possible to adjust any settings and even continue to shoot. The GX1's battery sees an improvement compared to the GF3 and G3 models, quoted as shooting 310 shots per charge. Although that's not an astounding figure, it's on a par with the longevity of the competition.

## Image quality

The GX1 offers three standard methods of exposure metering – evaluative, centre-weighted and spot. We found evaluative exposure to err towards underexposure, leading to bracketing shooting for best results. Tones are also towards the darker side of the palette, as contrast is high at standard settings. By default the 'i.Dynamic' mode gives a push to shadow areas for a more 'equal' exposure – it offers three levels of strength or can be switched off.

The GX1's shots have rich and standout colours that look realistic. Other Photo Style options and a 'Creative Control' option on the main mode dial provide differing levels of effect, and it's even possible to shoot in Raw, so when one of these modes is selected you'll never have to sacrifice final quality if the given effect isn't quite what you want. The division between these two categories, however, seems unnecessary: if the Photo Style options were bundled in with the Creative Control options then everything could be accessed from one space. The GX1's Auto White Balance delivers the goods throughout a variety of scenarios and includes a selection of presets that includes fluorescent and flash lighting.

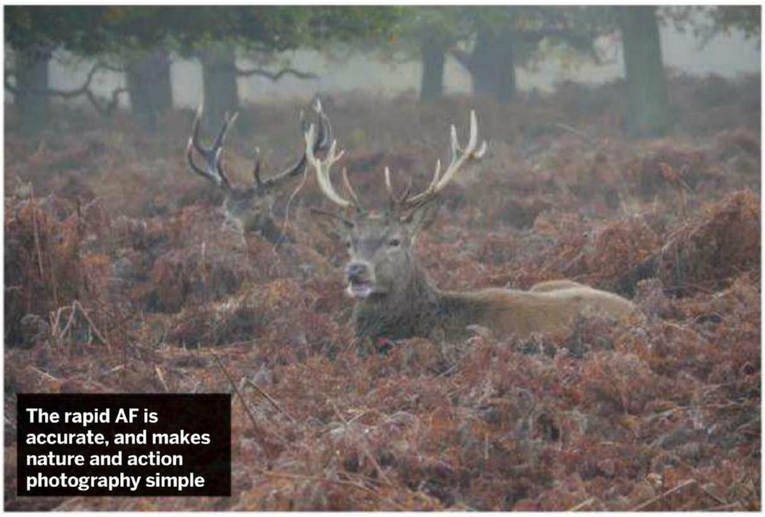
## Value

The GX1's premium finish carries an equally premium price-tag. At £749 with the 14-42mm power zoom lens it's one of the pricier models in the G-series range, and even exceeds both the Samsung NX200's and Olympus E-P3's price-tags.

Considering that the Lumix G3 – which produces the same image quality as the GX1 and even has a built-in viewfinder – was £630 at launch and can now be bagged for around £480 the GX1 seems all the more expensive. Should the new DMV-LVF2 electronic viewfinder (EVF) be added to your shopping basket too, the whole GX1 kit'll be closer to £1,000.

### VITAL STATISTICS

| | |
|---|---|
| SENSOR | 16-megapixel Live MOS |
| OUTPUT SIZE | 4592x3488 |
| FOCAL LENGTH MAG | 2x |
| LENS MOUNT | Micro Four Thirds |
| FILE FORMATS | JPEG, Raw, Raw & JPEG |
| SHUTTER SPEEDS | 1/4000-60sec & Bulb (to 2mins) |
| MAX FLASH SYNC | 1/160th sec max |
| IMAGE STABILISATION | No, lens-based |
| DUST REDUCTION | Supersonic wave filter |
| ISO | 160-12,800 |
| EXPOSURE MODES | P, A, S, M, C1, C2, Scene, Creative Control |
| METERING SYSTEM | 144-zone Multi-pattern sensing system |
| DOF PREVIEW | Yes |
| EXPOSURE COMP | -5 to +5 EV in 1/3 or 1/2 EV steps |
| LIVE MODE | Yes |
| MOVIE MODE | 1080i |
| LCD | 3in, 460k-dot, touchscreen LCD |
| VIEWFINDER TYPE | N/A, accessory port for EVF accessory |
| FIELD OF VIEW | 100% approx |
| WEIGHT | 318g (with battery, body only) |
| DIMENSIONS | 116.3 x 67.8 x 39.4 mm |



The rapid AF is accurate, and makes nature and action photography simple

**VERDICT** **The GX1 is an excellent camera that'll be well suited to more demanding photographers. Panasonic's latest has a fair balance of physical system size to image quality ratio. The super-fast autofocus is accomplished, and the touchscreen makes for intuitive stills or movie capture. Small touches such as edge-to-edge and Pinpoint focusing also make the camera all the more standout. Where build is concerned the GX1's craft and finish is delightful, though it has to be to justify the asking price. It may seem a lot like the GF1 reimagined, but credit where credit's due: the GX1's a cracking camera.**

**SCORE** Features 18/20 Performance 20/20 Design 18/20 Image quality 17/20 Value 17/20 **90%**

| PROS | CONS |
|---|---|
| Excellent low ISO image quality, ease of use, OLED screen, i-Fn lenses, good optics | Low-light focusing, Raw write, battery life, no EVF option |

## Is there more to this 20.3-megapixel Compact System Camera than the sensor?

# Samsung NX200

▲ **Design has changed quite drastically from the NX100, and is all the better as a result**

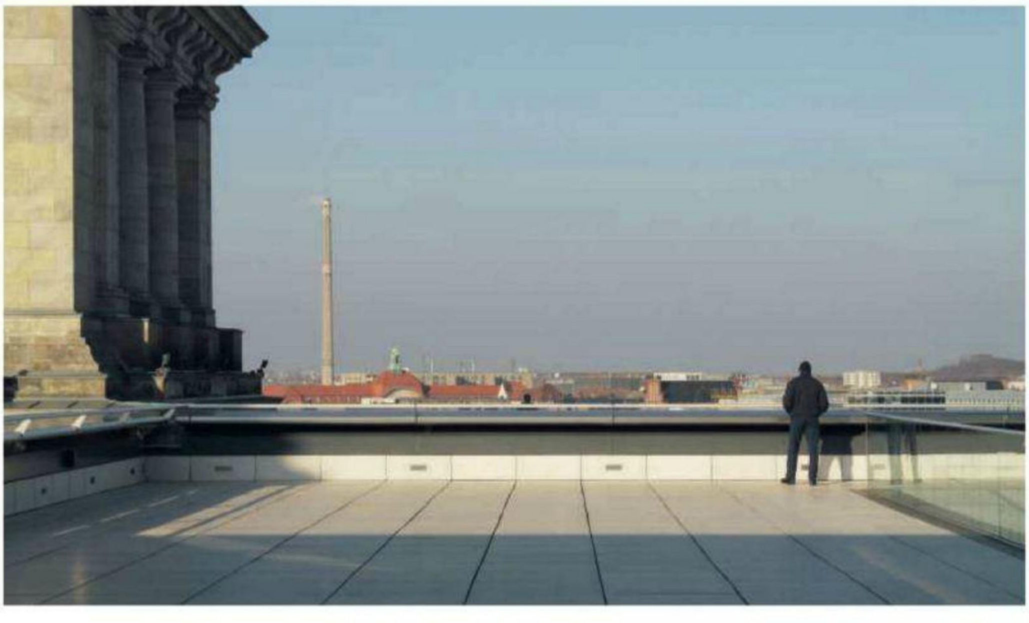
Samsung's latest Compact System Camera isn't looking to do things in half measures, with a huge 20.3-megapixel resolution and a brand new design. Could this be the best NX-series camera yet?

### Features

The Samsung NX200 has a massive 20.3MP, meaning its resolution is the second-highest of all the CSCs – second only to the huge resolution of Sony's 24.3MP NEX-7.

There's no doubting that the NX200 is a change of gear for Samsung. The NX100 which it replaces was almost half the cost of the latest £699 model, and there's plenty more on board for the cash to get your money's worth. The NX200's DRIMIII processing engine assists in recording images from ISO 100-12,800 at full resolution, can capture shots at seven frames per second and also offers 1080p movie clips as MP4 files. Autofocus has a quoted 100-millisecond response time, the 614k-dot OLED screen on the camera's rear is fantastic quality although there's no built-in viewfinder and while a small hotshoe flash is included in the box there's not one built into the body itself.

**Tones can look a touch flat, with a little help needed from in-camera processing** ▼



### Design

There's no doubt that the NX200 pushes things forward in terms of design. The previous NX100 may have looked 'pretty' but lacked the functionality and was a rather chunky beast. The NX200, on the other hand, trims the design down to a sensible size, is constructed from an aluminium frame and has a prominent front grip that makes holding the camera all the better. The thumbwheel on the top of the camera just a short throw from the main mode dial is awkward to use. Firstly the thumb needs to travel over the main dial to reach it, and secondly it'll need to be used in tandem with the likes of the press-and-hold exposure compensation button – it's like Twister with your fingers in our opinion, though only with regards to this one control.

### Performance

Amid the NX200's specifications Samsung has brought attention to lots of speed quotations. A 640-millisecond start-up time, 400ms shot-to-shot time and 100ms focus acquisition time make the camera sound like quite the speed demon. Although the start-up time is good and focusing, which we'll cover in more detail later, is decent there are other issues that mean the NX200 comes up short. A Raw & JPEG shot, for example, takes between eight and nine seconds to process the files to the

See the NX200 in action

▲ The rear OLED screen is bright, detailed and a joy to use

memory card. In excess of three frames and the screen blacks out and just displays a 'processing' notice. This is the NX200's single biggest issue and it feels limiting to have such controls out of bounds.

In an almost contradictory form, however, the 7fps burst shooting mode does a decent job. Full-resolution files can be whirred off at the fastest rate and we maxed out at 11 frames before the camera pauses to concentrate on processing. These 11 frames cleared the buffer in 20 seconds. A slower 3fps burst is also available, or there's a JPEG-only electronic shutter that can capture 5MP images at 10, 15 or 30fps.

A complaint we had with the previous NX100 model was the poor battery life and, unfortunately, this is an ongoing issue for the NX200. A number of charges were required and a full day's shooting was not possible from a full battery because all that Raw processing takes its toll. When using a mixture of flash, image playback, movie and Raw capture the first charge only lasts for 120 shots or so, increased to 220 shots after deactivating Raw capture.

## Image quality

In use the NX200 showed little to no exposure issues throughout a variety of scenarios and the rear OLED screen is great in playback to assess shots. Bright sunlight can cause a few issues, but this is to be expected from a non-viewfinder camera.

Tones can look a little flat straight from camera, but there's plenty of scope for post production or even in-camera adjustment: the inclusion of the Picture Wizard mode provides a variety of pre-sets and custom options to adjust colour tone, saturation, sharpness and contrast.

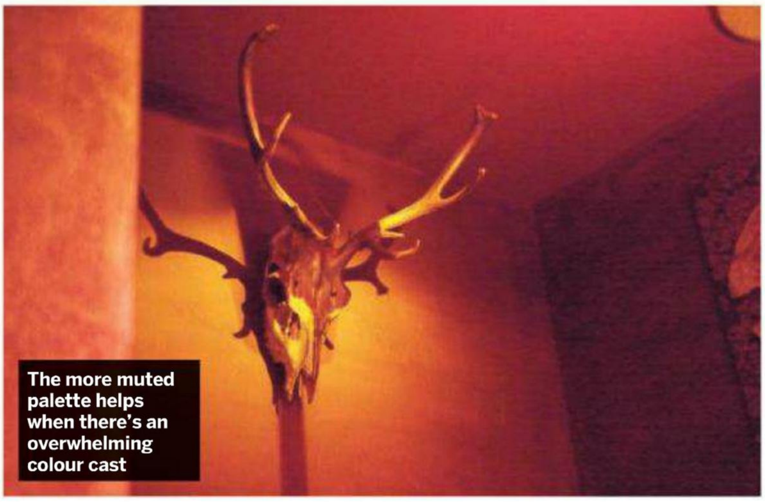
Auto White Balance can err towards cool and warm casts from time to time, but not so much that it's a problem. The inclusion of Picture Wizard pre-sets and customisation, seven white balance pre-sets, custom white balance with seven steps across the amber/blue/green/magenta axes and manual white balance (K) do mean there's stacks of user control. Colour is consistent between shots and only begins to differ when the more muted palette from ISO 800 and above is put to use.

## Value

The NX200's £699 asking price makes it among the priciest non-viewfinder CSCs on the market. Only the Olympus E-P3 commands a higher price and the forthcoming Panasonic GX1's power zoom kit is of a similar standing. What you're really paying for is the Samsung's high resolution but if that's not of interest then the camera may struggle to hold your attention.

### VITAL STATISTICS

**SENSOR**
20.3MP APS-C CMOS sensor
**FILE FORMATS**
JPEG, Raw, Raw & JPEG
**SHUTTER SPEEDS**
1/4000 - 30 secs (and Bulb)
**ISO**
100-12,800
**EXPOSURE MODES**
SmartAuto, P, A, S, M, Lens Priority, Magic, Panorama, Scene, Movie
**WHITE BALANCE**
Auto, 6 Preset, K, Manual
**DRIVE MODE**
Single, Continuous, Burst 7fps, Timer, Bracket
**LIVE MODE**
Yes
**MOVIE MODE**
1080p at 30fps
**SCREEN**
3in, 614k-dot OLED
**FOCUSING MODES**
Single, Continuous, MF
**AF POINTS**
35-point max
**DOF PREVIEW**
Yes
**PC SOCKET**
No
**CABLE RELEASE**
Remote
**BUILT IN FLASH**
No, included GN6 hotshoe flash
**MEMORY CARD**
SD (HC/XC)
**CONNECTIVITY**
mini HDMI, A/V out
**POWER**
Rechargeable li-ion battery
**WEIGHT**
220g
**DIMENSIONS**
116.5 x 62.5 x 36.6mm



The more muted palette helps when there's an overwhelming colour cast

The shaped grip makes usage comfortable for long periods ▼

**VERDICT** The NX200 is a big step beyond the NX100. The design and layout leave little to be desired and the camera is a breeze to use. Image quality is also phenomenal at the lower ISO settings. The camera's OLED screen is excellent and the inclusion of a hotshoe means expansion is possible. But there are areas that come up short: Raw file processing is far too slow and the battery life is poor. Decent quality optics and that resolution will see landscape enthusiasts more than happy – just be sure to bag a second battery.

**SCORE** Features 18/20 Performance 18/20 Design 17/20 Image quality 18/20 Value 17/20 **88%**

**PANASONIC LUMIX G3**

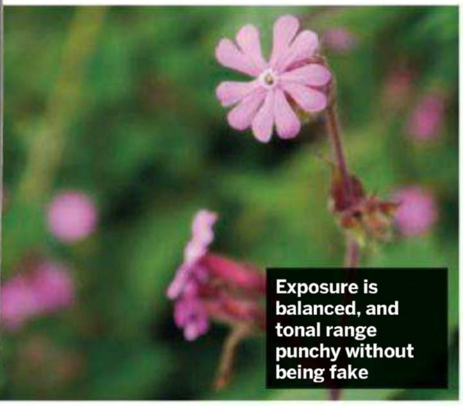
**£489**

**PROS**

Super-fast autofocus, built-in EVF, useful touchscreen, image quality

**CONS**

Battery power could be better



Exposure is balanced, and tonal range punchy without being fake

# Panasonic Lumix G3

## With tech ported from the GH2, the G3 looks like something of a pocket marvel

Almost a year on since the Lumix G2 hit the shelves, the Panasonic Lumix G3 is 25% smaller and 10% lighter, plus benefits from the super-fast autofocus as found in the higher-spec Lumix GH2 model.

### Features

At the core of the Panasonic Lumix G3 is a new 16MP Live MOS sensor, and on the rear is a 3in, 460k-dot LCD touchscreen, mounted on a vari-angle bracket for rotation through any angle you choose. The screen itself is the same as the G2's, yet the holding panel has been made slimmer to fit in with the new design. Above the touchscreen and the G3 has a 1.44million-dot electronic viewfinder.

### Design

The Panasonic Lumix G3 is decidedly slimmer than the G2, but the new battery was obviously necessary and has a disappointing 270 shots per charge. In terms of layout the G3 features a mode dial for quick access of main shooting modes, and a d-pad to the rear. The thumbwheel feels a little taut and is rather small, and although the touchscreen is useful the main issue is its sensitivity, as firmer presses are required.

### VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 15.8MP Live MOS |
| **KIT PRICE** | £489 street price with 14-42mm |
| **LENS MOUNT** | Micro Four Thirds |
| **IMAGE STABILISATION** | No, lens-based where applicable |
| **MOVIE MODE** | 720p |
| **LCD** | 3in, 460k-dot, vari-angle LCD |
| **VIEWFINDER** | 1.44m-dot electronic viewfinder |
| **AF POINTS** | 23 selectable points |
| **ISO** | 160-6400 |
| **METERING** | 144-zone multi-pattern sensing system |
| **BURST SPEED** | 4fps |
| **WEIGHT** | 544g approx |
| **DIMENSIONS** | 115.2 x 83.6 x 46.7mm |

### Performance

It's autofocus where true breakthroughs can be seen – the 'light speed' autofocus from the Lumix GH2 was the fastest contrast-detection system we've ever used and appears on the G3. The only shortcoming of the system is with limited-contrast subjects but the G3 does now offer edge-to-edge touch focusing.

**The sparse spread of buttons is partially down to the rotating touchscreen LCD screen, which contains the majority of functions**

▼

### Image quality

Exposure is generally accurate, though some scenes were towards the side of overexposed. Tones can be towards the darker side of the palette, colour is rich and standout, though not to the point of looking 'fake'.

The Auto White Balance worked well in various different scenarios, including natural, fluorescent and flash lighting. From ISO 160-200 results are decent, which then dips at ISO 800 where the JPEG processing begins to sharpen results more heavily.

### Value

The G3 complete with lens will retail for around £489, which is impressive considering the technology on offer. There are also more compact-style offerings without built-in viewfinders, but they don't offer the same level of technology however.

**VERDICT** **The Panasonic Lumix G3 has a whole lot to like: it's small, neatly designed, has superb autofocus speed, a vari-angle LCD and decent built-in electronic viewfinder. Even image quality has been slightly improved over the Lumix G2 model despite the increase in resolution. All in all, the advances in AF make the G3 a super-fast, sleek-looking and generally satisfying model.**

**SCORE** Features 18/20 Performance 18/20 Design 18/20 Image quality 17/20 Value 17/20 **88%**

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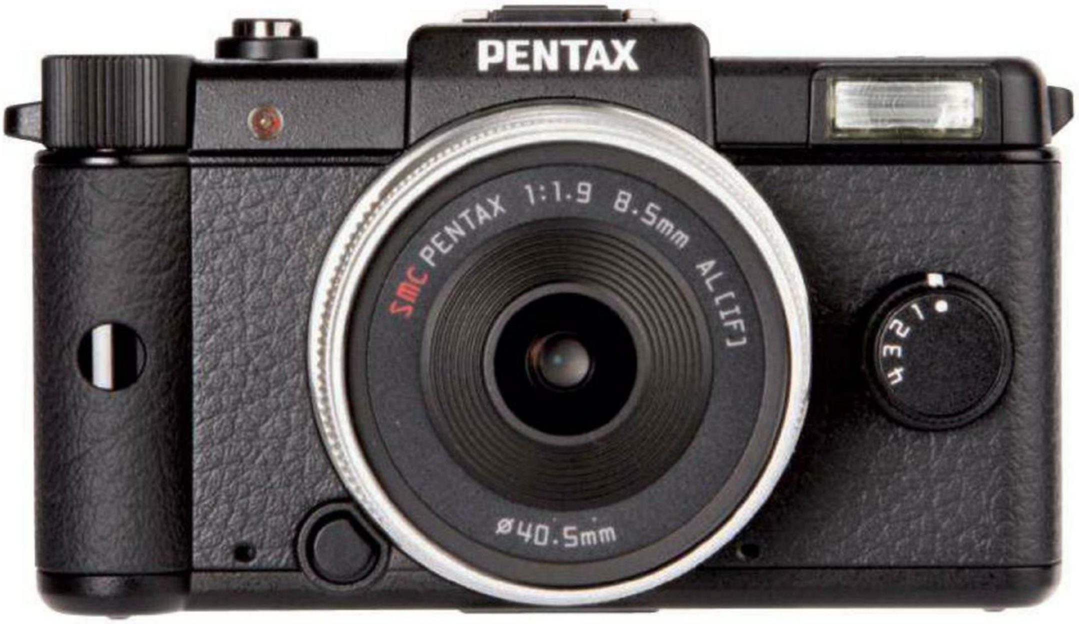
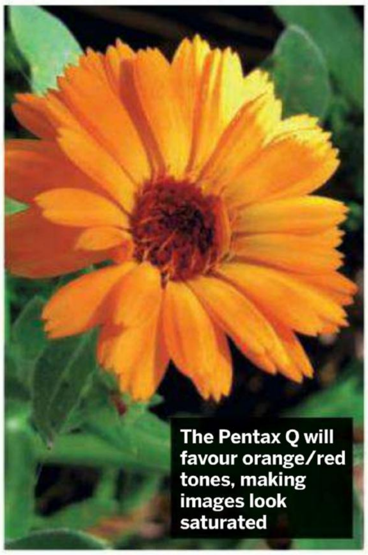
**PROS**

Small, long lenses small in size, fast sync leaf shutter lenses

**CONS**

Poor LCD screen, small sensor size, Blur Control mode is poor, function dial poorly placed, no EVF possible, expensive




The Pentax Q will favour orange/red tones, making images look saturated

# Pentax Q

## Pentax puts the compact in Compact System Camera...

The Q takes the Compact System Camera to new levels of compactness. However, its 12.4-megapixel backlit 1/2.3in sized CMOS sensor – itself smaller than that found in Canon's G12 or Panasonic's LX5 compact cameras – is going to ruffle some feathers.

### Features

Alongside its über-small size, the Q offers Raw & JPEG shooting from ISO 125-1600 at speeds of up to five frames per second (5fps). 1080p HD movies can also be recorded, while composing and image review takes place on the 3in, 460k-dot LCD screen. A standard hotshoe fitting is included, though there's no capability to add an electronic viewfinder.

The Q certainly looks quirky and, daresay, 'fun' – but the small dials are difficult to turn.

### Performance

Considering the Q's promise to deliver DSLR performance we were left waiting for more. The 'BC' (Blur Control) mode is the Q's attempt to simulate shallow depth of field. In reality shots look like a misplaced tilt-shift effect gone wrong with seemingly random blurring in various parts of an image. The rear LCD screen, while of a reasonable 460k-dot resolution, is both difficult to see and assess images with. When the camera is hunting to pin focus the screen will brighten or darken as it deems necessary.

### VITAL STATISTICS

| | |
|---|---|
| SENSOR | 12.4-megapixel CMOS |
| FILE FORMATS | JPEG, Raw, Raw & JPEG |
| SHUTTER SPEEDS | 30 - 1/2000th second |
| ISO | 125-6400 |
| EXPOSURE MODES | P, S, A, M, BC, Auto, Scene modes |
| WHITE BALANCE | Auto, 11 Preset, Manual, Fine adjustment |
| DRIVE MODE | Single, Burst, Timer, Remote |
| MOVIE MODE | 1080p at 30fps MOV format |
| LCD | 3in, 460k-dot LCD |
| FOCUSING MODES | Face Detection, Tracking, AF Select, Select, Spot |
| AF POINTS | 25-area max |
| FOCUS AREAS | 25-points (arranged in 9 groups) |
| MEMORY CARD | SD (HC/XC) |
| CONNECTIVITY | mini HDMI, PC/AV out |
| POWER | Rechargeable li-ion battery |
| WEIGHT | 300g (with battery & card) |
| DIMENSIONS | 98 (W) x 57.5 (H) x 31mm (D) |

### Image quality

As per many Pentax models the Q opts to meter in order to preserve highlights. In many instances this will lead to underexposure – a +0.3EV adjustment proved useful a lot of the time. With default settings shots reproduce colours faithfully and Auto White Balance is accurate, though can be a little warm/orange in interior shots. As lens samples are currently limited we were only able to review the 8.5mm f/1.9 lens. An impressive piece of glass, the centre sharpness is exceptional and renders crisp images. The two biggest issues, however, are barrel distortion and chromatic aberrations.

**The tiny shell makes the Pentax Q easy to transport, but difficult to operate**

▼

### Value

At £600 with the 8.5mm f/1.9 prime lens, the Pentax Q isn't cheap. No doubt a great deal of research and development costs will have gone into the system, but a lower price would have gone a long way in helping the Q's prospects. As the Lumix GF3 can be purchased for £480 with a 14mm f/2.5 lens, the Q seems very expensive.

**VERDICT** **The Q isn't better than other CSC cameras, but is superior to most compacts. However the performance, focus speed and LCD just can't compare to CSCs and, although the Q's images are standout, the price tag won't give any reason to choose this over a high-end compact camera. We're surprisingly charmed, but the Q's 'fun' approach just doesn't cut it.**

**SCORE** Features 16/20 Performance 16/20 Design 16/20 Image quality 17/20 Value 15/20 **80%**

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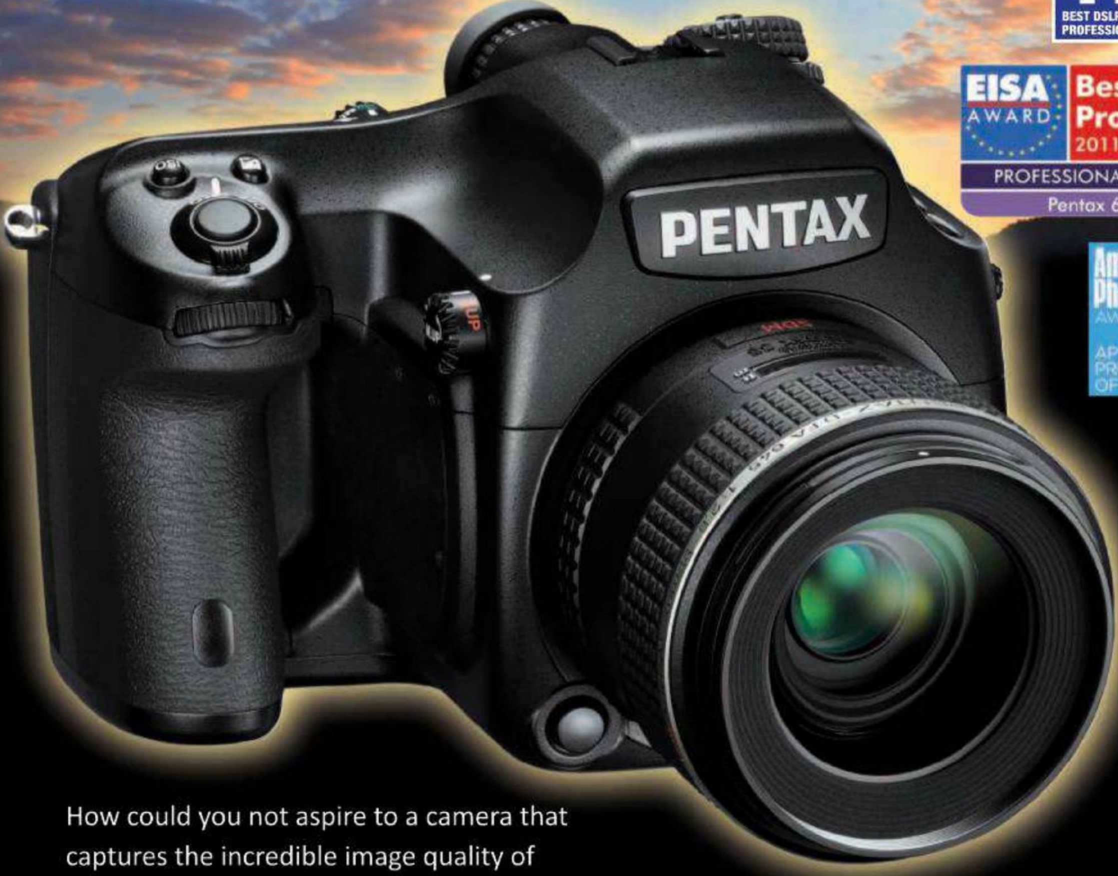

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**PROS**

Small size, build quality, retractable lenses, innovative, useful and fun shooting modes

**CONS**

Poor battery life, some irritating operational quirks, manual controls buried in the menu, some missing features

Images are well exposed and punchy, but lacking in dynamic range

# Nikon 1 J1

**Nikon's debut Compact System camera boasts a long list of world firsts, fastests and bests. But it isn't without controversy**

Last year Nikon announced the Nikon 1 system, and kicked it off with two models, the V1 and the J1. The J1 is the cheaper of the two models. It is aimed squarely at the mass market consumer upgrading from a compact, and seeking something simple and quick to use but with interchangeable lenses.

## Features

At the heart of the J1 is a brand new CX-format 10.1MP CMOS sensor, which is also the first to incorporate both phase detect and contrast detect AF. This makes it able to switch seamlessly between the two types, giving what Nikon claims is the world's fastest auto-focus. The Expeed 3 processor paired with the CX sensor allows the J1 to process images at an unprecedented 600 megapixels per second. This gives the Nikon 1 J1 its list of ground-breaking features.

## Design

As you'd expect from Nikon the J1's build quality is excellent. From the front and top, it's a minimalist masterpiece, with a flat front and flat top panel. There is no hand grip or groove on the front for the fingers which means that, despite the rubbery thumb rest on the back, it doesn't feel as secure in the hand as it should.

## Performance

More advanced photographers will be disappointed that Nikon has chosen to bury the manual exposure modes and controls in the menu rather than place them on the dial, which has plenty of space. The combination of fast focusing and high burst speed makes the J1 more suitable than most CSC models for action, although the buffer fills up quickly.

## Image quality

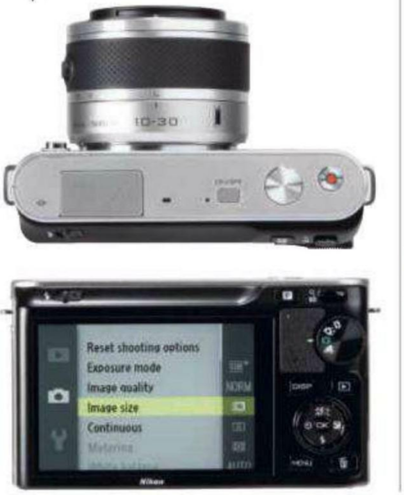
The Nikon J1 rarely puts a foot wrong with its exposures, even with tricky situations like backlighting, only occasionally being tempted to overexposure. The Auto White Balance generally works very well – better than some of the pre-sets. Both Raw and JPEG images from the J1 look sharp and detailed with none of the heavy-handed sharpening at the processing stage that some cameras apply to compensate for deficiencies in the lens or the sensor.

## Value

The Nikon 1 J1 comes in a variety of kit options which makes it competitive with rivals especially considering the low street price.

### VITAL STATISTICS

**SENSOR**
10.1-megapixel 1in CMOS
**FILE FORMATS**
JPEG, Raw, Raw & JPEG
**SHUTTER SPEEDS**
30 - 1/16,000th second
**ISO**
100-3200, expandable to ISO 6400
**EXPOSURE MODES**
P, S, A, M
**METERING SYSTEM**
Matrix, Centre-weighted, Spot
**WHITE BALANCE**
Auto, 6 preset, preset manual
**DRIVE MODE**
Single, Burst, Electronic, Timer, Remote
**MOVIE MODE**
1080 at 60i or 30fps MOV format
**LCD**
3in 460k-dot LCD
**FOCUSING MODES**
Single, auto, tracking, Face priority
**MEMORY CARD**
SD/SDHC/SDXC
**CONNECTIVITY**
Mini HDMI, Hi-Speed USB 2.0
**POWER**
Rechargeable Li-ion battery
**WEIGHT**
277g (body only)
**DIMENSIONS**
106 x 61 x 30mm



The Nikon J1's body is sparse, with the majority of controls within the menu system

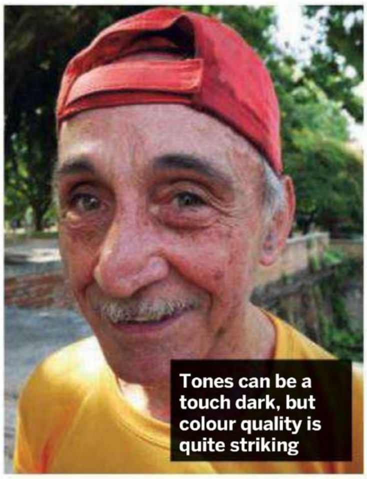
**VERDICT** The J1's simplicity, speed and image quality, which is better than expected, may make it a clincher for young families. On the other hand the J1 is only marginally smaller than Micro Four Thirds cameras, and the battery performance is frankly shocking, but overall Nikon deserves high praise for producing a camera that can take pictures that no other camera can.

**SCORE** Features 17/20 Performance 16/20 Design 19/20 Image quality 18/20 Value 17/20 **87%**

See the GF3 in action

**£469**

| PROS | CONS |
|---|---|
| Small size and affordable | No physical mode dials, no hotshoe |



Tones can be a touch dark, but colour quality is quite striking

# Panasonic Lumix GF3

## The smallest and lightest Compact System camera yet

The GF3 continues the Panasonic's line of small and portable models. It ups the Compact System Camera ante by offering a super-fast autofocus system and a petite and light body.

### Features

The GF3 houses a 12.1MP Micro Four Thirds sensor at its heart. A 3.8fps burst rate can quickly reel off shots and the inclusion of a 1080i movie mode shows the camera's strength in motion capture too. On the rear is a 3in, 460k-dot touchscreen LCD. Its resolution isn't staggering, but is good enough and suited to its target market.

### Design

Although the GF3 is deeper than a smartphone, it's narrower than a iPhone 4 and similar in height. Easy to carry anywhere, it's only the lenses that bulk it out. Keeping the size of the chassis down means the GF3 has few on-body controls, plus there is no viewfinder, hotshoe, and the flash is smaller too.

### Performance

In use the most striking thing is just how fast the autofocus system is. Subjects speed into focus and the touchscreen control means the focus point can be set by hand. As well as full manual control the latest intelligent Auto+ adds on-screen sliders to select between Defocus Control, Exposure Compensation and Red/Blue colour cast. Burst shooting is prompt, at 3.8fps, however with a Class 10 SD card and shooting in Raw + JPEG, the GF3's buffer fills up after four shots.

As the GF3 is a small camera it also comes with a rather small battery capable of only 300 shots per charge.

**The touchscreen allows the body of the GF3 to be impressively sparse**

▼

### VITAL STATISTICS

**SENSOR**
12.1MP Micro Four Thirds Live MOS
**MOVIE MODE**
1080i HD movie
**LCD**
3in, 460k-dot touchscreen
**AF POINTS**
23-Area max
**ISO**
160-6400
**METERING**
144-zone Multi-pattern sensing system
**BURST SPEED**
3.8fps max
**WEIGHT**
264g
**DIMENSIONS**
107.7 x 67.1 x 32.5mm

### Image quality

Exposures are well-balanced and usually avoid excess over- or under-exposure. Tones can be on the darker side, though by default 'i.Dynamic' mode gives a push to shadow areas for more equal exposure. There's a wide ISO range and while ISO 160-400 are of good quality, beyond this shots become softer and more image noise grain is also visible. Above ISO 1600, at the top end of the spectrum, colour noise becomes a prominent issue that can render shots far less usable. The GF3's processing can render shots a little soft overall, so shooting in Raw is recommended.

### Value

The GF3, supplied with its 14mm pancake lens, is also highly competitive price-wise.

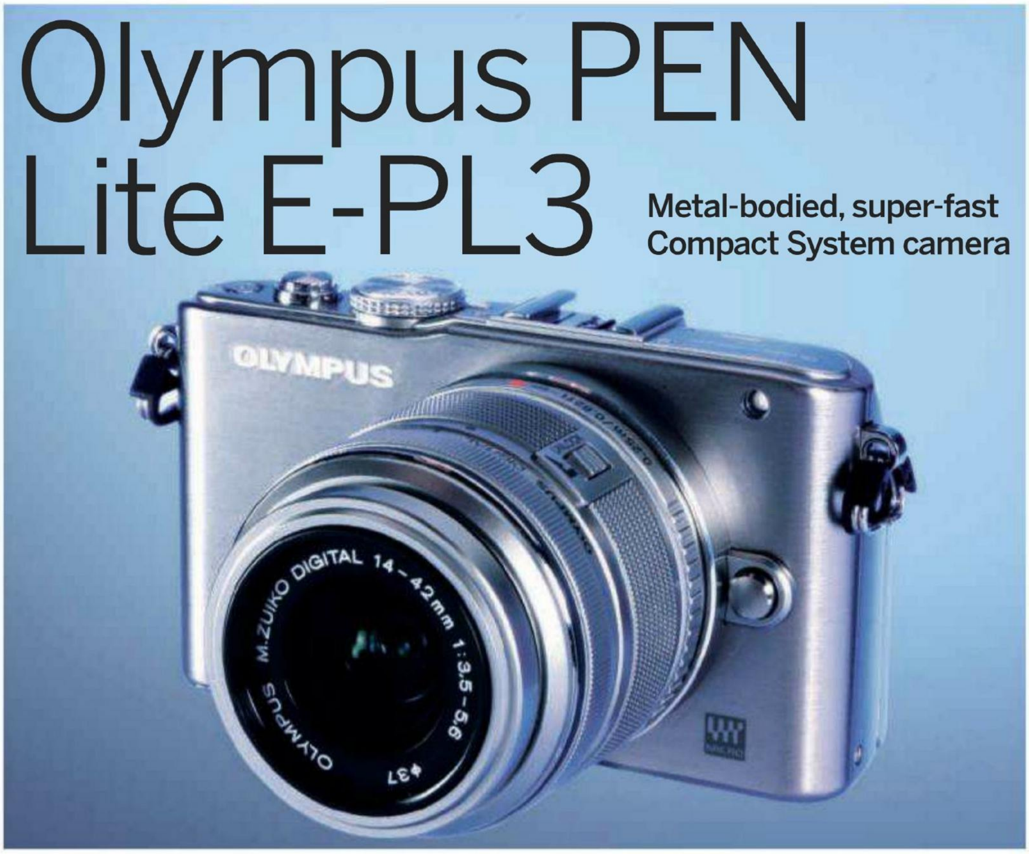
**VERDICT** **The GF3 delivers true quality in an ultra-small package, taking a different and more consumer-led path. The GF3's lack of a hotshoe and mode dials may be a letdown to more demanding users yet those after a pocketable camera that's affordable and well equipped need look no further. It's an impressive camera that ought to push forward the Micro Four Thirds standard.**

**SCORE** Features 18/20 Performance 18/20 Design 18/20 Image quality 17/20 Value 18/20 **89%**

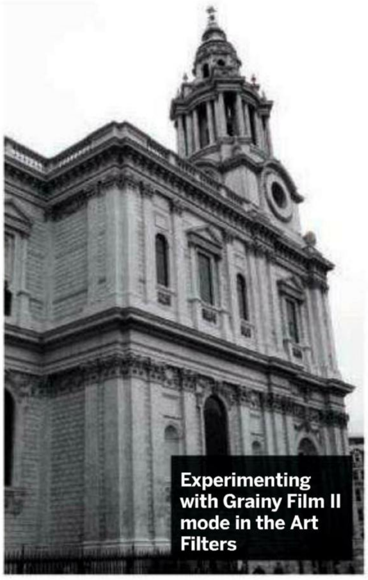
**£550**

# Olympus PEN Lite E-PL3

## Metal-bodied, super-fast Compact System camera



| PROS | CONS |
|---|---|
| Metal body, fast autofocus, wireless flash, low ISO quality | Continuous and Tracking focusing speeds, no built-in flash (hotshoe mount), 16:9 ratio LCD |



Experimenting with Grainy Film II mode in the Art Filters

The Olympus E-PL3, or 'Lite' as it's been duly named, joins the existing PEN range and sits as the mid-level model above the E-PM1 'Mini' and below the E-P3.

### Features

The E-PL3's feature list makes a variety of subtle improvements to the range, including an improved and super-fast autofocus, while the metal body and AVCHD movie mode set about to answer the criticisms of previous-generation models. The camera's 460k-dot LCD is a 16:9 widescreen ratio, 3in screen and mounted on a tilt-angle bracket for 85° upward and 45° downward rotation. What may come as a surprise, however, is the omission of a built-in flashgun as instead there's a small flash included in the box.

### Design

The PEN range has a unique feel about it compared to other CSCs, and the E-PL3 continues to raise the bar. The silver model looks classy, but there's no textured grip to the camera's front for an extra-sturdy hold.

### Performance

Focus speeds can be some 25% faster than the previous-generation model. In addition, the latest 35-point AF arrangement is vast compared to the old 11-point system.

From fast autofocus to a fast continuous burst mode of 5.5fps, the E-PL3 can shoot up to eight Raw+JPEG shots in succession before a brief pause, or up to 10 JPEG Fine files. The rechargeable li-ion battery is supposedly capable of 330 shots, but the actual total was lower.

### VITAL STATISTICS

**SENSOR**
12.3MP Live MOS
**FILE FORMATS**
Raw (ORF), JPEG, Raw + JPEG
**SHUTTER SPEEDS**
2-1/4000th second, plus Bulb
**ISO**
200-12,800
**EXPOSURE MODES**
P, S, A, M, iAuto, Art, Scene
**METERING SYSTEM**
324 zone Multi-pattern System
**WHITE BALANCE**
Auto, 7 preset
**DRIVE MODE**
Single, Cont, Timer
**MOVIE MODE**
1080i HD video
**LCD**
3in, 610k-dot OLED
**FOCUSING MODES**
Single, Cont, Manual, Tracking
**AF POINTS**
35 selectable points
**MEMORY CARD**
SD (HC/XC)
**CONNECTIVITY**
Hi-Speed USB, HDMI
**POWER**
Rechargeable Li-ion
**WEIGHT**
313g
**DIMENSIONS**
109 x 63.7 x 37.3mm

**The E-PL3 follows the usual design cues from the Olympus PEN series of cameras, looking sleek and stylish**

▼

### Image quality

With the very same sensor and processing engine as the Olympus E-P3, the quality from the E-PL3 is identical. Shots are sharp up until ISO 400 although there's a slight dip at ISO 800. Colour noise is only subtle from ISO 1600, though at ISO 6400 it becomes more noticeable. So while higher sensitivities aren't quite as hot, we're impressed with the noise reduction process. The Auto White Balance setting tends to err towards a warmer cast for a number of scenes.

### Value

The E-PL3 is slightly pricey, which isn't to say it doesn't pose good value. It produces decent images and has features that offer bags of potential for expansion. The metal body also exudes quality, it's just a shame to lose the built-in flash.

**VERDICT** **Small and with an elegant metal finish the E-PL3 brings together much of what was lacking from its predecessors. With so much else going for it, including the improved AVCHD movie mode with full manual exposure control and decent image quality at the lower ISO settings, the E-PL3 is among the better-equipped Compact System Cameras out there.**

**SCORE** Features 17/20 Performance 18/20 Design 18/20 Image quality 18/20 Value 17/20 **88%**

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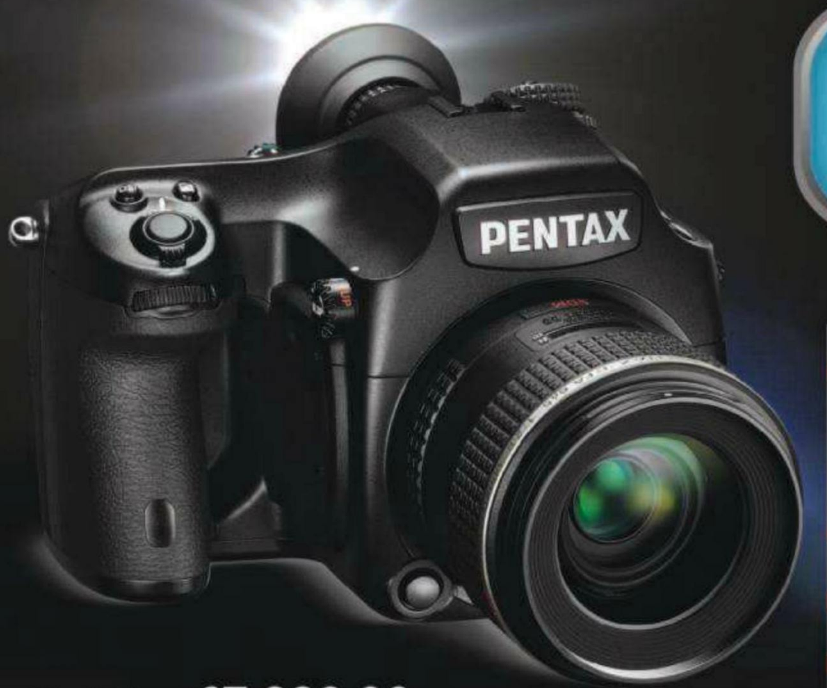

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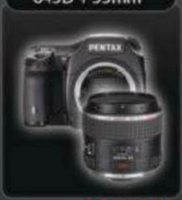
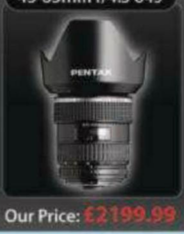
| 645D + 55mm |  | Our Price: £8,999.00 | or pay £374.95 per month Pay4Later |
| 75mm f/2.8 645 | | Our Price: £499.99 | or pay £25.00 per month Pay4Later |
| 25mm f4 SMC FA 645 | | Our Price: £3799.99 | or pay £158.33 per month Pay4Later |
| 45-85mm f/4.5 645 |  | Our Price: £2199.99 | or pay £91.67 per month Pay4Later |
| 400mm f/5.6 645 | | Our Price: £3499.99 | or pay £145.83 per month Pay4Later |
| 120mm Macro 645 | | Our Price: £1999.99 | or pay £83.33 per month Pay4Later |
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**CONS**

Occasional mis-focusing, slow start-up, poorly placed movie button, unfriendly menu system, larger lenses than most CSCs

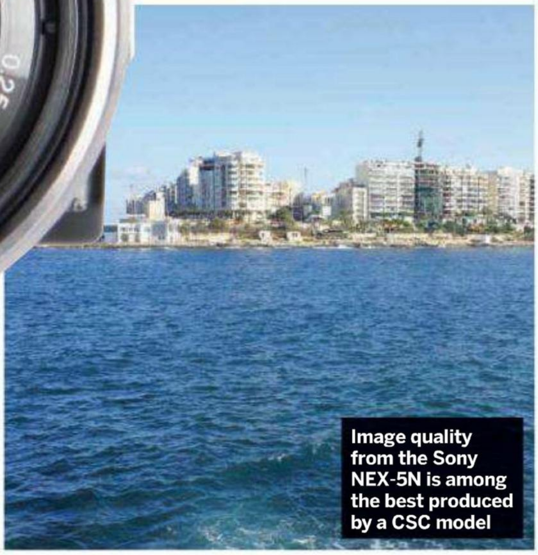


Image quality from the Sony NEX-5N is among the best produced by a CSC model

# Sony NEX-5N

## The best Compact System Camera image quality?

Small in size, yet big on features, the 5N builds upon its NEX-5 little brother with a new 16.1MP sensor. For under £600 that alone sounds like a snip, but Sony has packed plenty more into the 5N…

### Features

While the 5N is small, it's larger than the likes of the Panasonic GF3 and Nikon 1 J1. On the camera's rear is a 3in, 921k-dot tilt-angle TruBlack LCD touchscreen that sits snugly to the body. The new sensor and Bionz processor are capable of shooting from ISO 100-25,600 meaning a variety of lighting conditions should be fine.

### Design

The NEX-5N is a carbon copy of the NEX-5, so there's nothing new in terms of controls. The D-pad button opens a 'Custom' menu, and good as this is we'd like to see a full screen menu as per other manufacturers' systems. The 5N's HD one-touch movie button is very easy for a hand to knock and press, thus activating the movie mode when you don't want to.

### Performance

The 5N is great to shoot with and autofocuses in good time, though fast-moving subjects may cause issues. The LCD handles bright sunlight well and its tilt-angle ability is useful for a number of scenarios. The 5N's 10fps burst mode can only shoot four Raw + JPEG shots (or 15 JPEG Fine images) before the buffer fills, plus focus and exposure are locked. In standard continuous shooting it'll shoot at a lower rate but continuous AF and more control can be yielded.

### VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 16.1MP APC-C CMOS |
| **LENS MOUNT** | Sony E mount |
| **IMAGE STABILISATION** | No, lens-based where applicable |
| **MOVIE MODE** | 1080p50 Full HD movie mode with full manual controls |
| **LCD** | 3in, 921k-dot, tilt-angle touchscreen |
| **VIEWFINDER** | N/A, optional 16mm OVF or 2.3m-dot OLED EVF available separately |
| **AF POINTS** | 25-point area |
| **ISO** | 100-25,600 |
| **METERING** | 1200-zone evaluative metering |
| **BURST SPEED** | 10fps burst shooting |
| **WEIGHT** | 210g body only |
| **DIMENSIONS** | 110.8 x 58.8 x 38.2mm |

**Although the body shape of the NEX-5N is small, attaching a lens immediately increases the bulk**

▼

### Image quality

The 5N's ISO 100-25,600 sensitivity retains low noise and clarity throughout much of its range, and adds an extra stop of exposure. Image noise isn't an issue from ISO 100-800, and while some softness occurs due to processing hereafter colour noise is still largely absent.

Sharpness is one area where the Sony NEX series can fall into difficulties. Images are susceptible to softness at the corners when shooting at wideangle settings due to the large sensor and short flangeback distance.

### Value

The 5N's sub-£600 price tag makes it a shade more expensive than many of its peers. Although the trickle of new E-mount lenses are slowly increasing making the NEX range one of the best catered for optically.

**VERDICT** **To improve the already impressive NEX-5 is a job well done. Both movie and still image quality are impressive overall, although wideangle settings may have issues with barrel distortion and the menu layout still isn't intuitive. Many will love the 5N's ease of use, creative modes and DSLR-like image quality. When the NEX-5N gets things right it really gets them right.**

| SCORE | Features 19/20 | Performance 17/20 | Design 17/20 | Image quality 19/20 | Value 18/20 | 90% |
|---|---|---|---|---|---|---|

See the NX11 in action

**£480**

# Samsung NX11

## Can this impressive-looking Compact System Camera offer DSLR-like quality, or fall short of the mark?

| PROS | CONS |
|---|---|
| OLED screen, improved AF, i-Fn, EVF | Little change over NX10, occasional autofocus wavering |

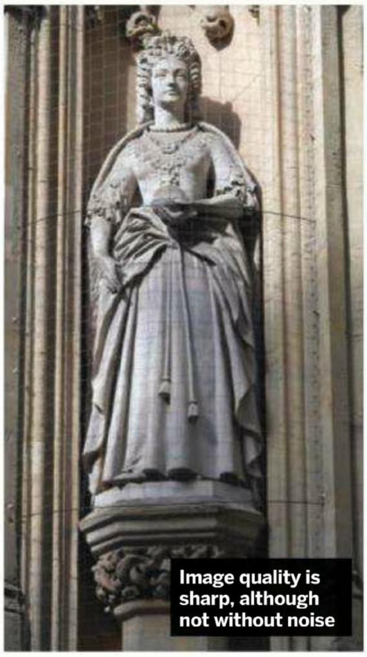


Image quality is sharp, although not without noise

The NX11 is very much a subtle upgrade of the NX10 rather than an overhaul, though the features are strong: a 14.6MP APS-C sized CMOS sensor capable of shooting from ISO 100 to 3200, a 3in AMOLED screen and 920k-dot electronic viewfinder (EVF) are among the most prominent points.

### Features

The leap forward is compatibility with Samsung's i-Function (i-Fn) lens series. These lenses have a function button that can control the most-used settings. Our only qualm is that the i-Fn button on the supplied lens is placed rather far back and doesn't feel natural to press. Other plus points include the high-contrast AMOLED rear screen and a 920k-dot EVF.

### Performance

The continuous autofocus offers a lot of control and is very smooth to transition between one subject and another. It's a shame the camera doesn't have full manual controls, but aperture priority allows for live aperture adjustment, at the expense of ISO sensitivity.

There are some new shooting modes including Panorama mode for live panoramic capture, a sound and picture mode, and Lens Priority mode that can be set through the i-Fn lens.

### VITAL STATISTICS

| | |
|---|---|
| SENSOR | 14.6MP APS-C CMOS sensor |
| MOUNT | Samsung NX-mount |
| SCREEN | 3in, 416k-dot AMOLED screen |
| VIEWFINDER | 920k-dot Electronic Viewfinder |
| ISO | ISO 100-3200 |
| MOVIE MODE | 720p HD movie capture |
| IMAGE STABILISATION | No, lens based |
| METERING | TTL 247 (19x13) Block segment |
| DIMENSIONS | 123 x 87 x 39.8mm |
| WEIGHT | 353g |

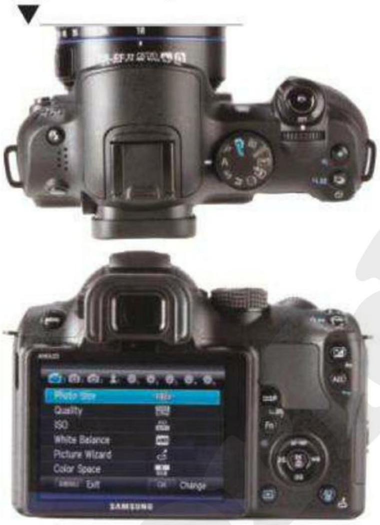
### Image quality

The NX11 avoids the super-high ISO settings offered by some competitor cameras, instead opting for a sensible ISO 100-3200 range. Although there is some image noise present throughout this range, image quality is otherwise decent and sharp from ISO 100-400.

It may not win the prize for retaining sharpness above this setting, but the larger sensor size certainly puts itself above and beyond the capabilities of some similar Panasonic Micro Four Thirds models, such as the Lumix G2.

At ISO 800 through to the top limit of ISO 3200, the image softens and an increase in image noise is much more pronounced, with 'blotchy' colour noise and significant softness from noise reduction rendering ISO 3200 just off the mark. Stick below this and the NX11 is fine.

**The DSLR-like shell extends to the button layout, with everything organised in a logical manner**



### Value

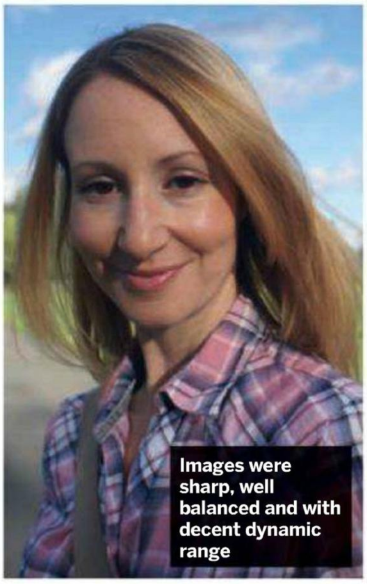
At around £389 the Samsung NX11 is competitively priced. Meanwhile the Sony NEX-C3 model demands a little less cash at £350 and adds the benefit of a vari-angle touchscreen rear display.

**VERDICT** **An upgrade model to the previous NX10 this isn't, but the NX11 does successfully bring out-of-the-box i-Fn lens compatibility. Image quality is good, autofocus has been improved a fair amount and the body layout makes good sense in the hand. It feels like a mini-DSLR in many resepcts, and is a viable alternative to a full-on DSLR system.**

**SCORE** Features 18/20 Performance 18/20 Design 18/20 Image quality 17/20 Value 18/20 **89%**

**£450**

| PROS | CONS |
|---|---|
| Good image quality, improved start-up time, button customisation, small size | Poor menu system, no possibility for a viewfinder |



Images were sharp, well balanced and with decent dynamic range

# Sony NEX-C3

## A small, light and generally impressive Compact System Camera

The NEX-C3 – 'C' standing for 'compact' – is based on the company's NEX-3 and at its launch laid claim to be 'the world's smallest and lightest interchangeable system camera'.

### Features

The C3 has a new 16.2MP Exmor APS HD CMOS sensor which promises to deliver superior image quality, while the processing engine delivers shots from ISO 200-12,800 at full resolution and 720p MP4 movie recording.

### Design

The LCD is a 3in, 921k-dot screen, mounted on a tilt-angle bracket for vertical adjustment. There is no viewfinder, and the Sony Smart Accessory Terminal for the included flashgun won't accept one. The Terminal is less smart and more fiddly (attaching the flashgun is time-consuming) and few accessories are available for it. Avoiding the eyesore of a hotshoe is understandable, but it does cause practical problems.

### Performance

The C3's start-up time is almost nothing, plus the buttons are far more customisable but despite this, menu access still feels clunky. The C3's focusing speed is swift, whether using continuous or single autofocus. Unlike Sony's Alpha DSLR models, the C3 lacks any in-camera image stabilisation. This isn't a major gripe, particularly as such a feature would draw more power.

### Image quality

Exposure is accurate for the most part, though in brighter sunlight it can be difficult to assess this on the C3's screen. Looking at the final shots off-camera, even difficult lighting conditions were tackled well. With the 16mm f/2.8 lens attached for this test, images did suffer from blurring towards the edges and barrel distortion, but this is down to the lens rather than the sensor. The level of available detail is testament to the already well-proven 16.2MP sensor that does a good job in its allocation here. The Sony has more aggressive image noise reduction that results in softer images, but even into the high ISO settings there's enough resolved detail right up to ISO 3200. At settings of ISO 6400-12,800 the images are far softer but still usable despite a wash of colour noise. Considering its small size there's no doubt that the NEX-C3 delivers big on the image quality front.

### VITAL STATISTICS

**SENSOR**
16.2MP APS-C CMOS sensor
**AUTOFOCUS**
25-Area AF System
**SCREEN**
3in, 921k-dot, tilt-angle LCD screen
**FLASH**
Detachable flash unit included
**ISO**
200-12,800
**MOUNT**
Sony NEX-mount
**IMAGE STABILISATION**
No, lens-based where applicable
**MOVIE MODE**
720p HD Movie (MP4)
**AF POINTS**
25-Area AF system
**METERING**
49-segment
**BURST RATE**
5.5fps max; 2.5fps max with continuous AF
**WEIGHT**
225g
**DIMENSIONS**
109.6 x 60 x 33mm

The small frame of the C3 has few buttons thanks to the presence of the touchscreen

▼

**VERDICT** The C3 takes the already successful NEX concept and improves upon it. The camera's small design looks the part, the price is reasonable and images look great. There's very little not to like bar some control issues. But pretty much everything else is done with class. If you're seeking a small, viewfinder-free interchangeable-lens system, the C3 has a lot going for it.

**SCORE** Features 18/20 Performance 17/20 Design 18/20 Image quality 19/20 Value 18/20 **90%**

See the E-PM1 in action

£449

The E-PM1 comes in a variety of pleasing, and not so pleasing, shades

**PROS**

Menu system easy to understand, fast focusing speed, inclusion of hotshoe, build quality

**CONS**

Small text, lack of grip, poor chromatic aberration control with kit lens, auto white balance can falter

Detail is decent, but over-saturation can be an issue on the E-PM1

# Olympus E-PM1

## A pocketable version of the PEN series, but does the E-PM1 minimise where it should maximise?

The E-PM1 offers image stabilisation in-body, a 12.3MP sensor in the Micro Four Thirds aspect ratio, and aside from stills it's capable of full HD video recording with stereo sound.

### Features

Although it's possible to mount a viewfinder in the camera's hotshoe, the camera doesn't provide one as standard. Instead, there's a 3in LCD screen with 460,000 dots, which is shaped to the video-friendly 16:9 aspect ratio. On the inside, a 35-point AF system covers all but the peripheral areas of the frame, while the camera's sensitivity range of ISO 200-12,800 is far-reaching for a camera of this level.

A maximum continuous shooting rate of 5.5fps is also available, dropping to 4.1fps if image stabilisation is activated.

### Design

The E-PM1 isn't particularly refined in its design, largely because it fails to offer a grip, but also because its smooth, bland body just begs for a few additional details to make it appear more complete. Buttons are a little on the small side, as is the menu pad dial, although the latter can be easily rotated by the thumb.

Commonly used options, such as focusing area and drive mode, can be directly accessed through the menu pad, while everything else can be brought up by pressing the OK button. Some may find the text of the graphic user interface to be a bit too small, though the system makes good use of colour to illustrate Art Filters and Scene options although the menu system is simple to get accustomed to.

### Performance

Olympus describes the E-PM1's focusing system as being 'extremely fast', and in good light that much is true. There's little to separate its performance from that of the GF3, although it does tend to slow down a touch when there is less light. Its start-up time is also a little behind the others, taking around one second.

The small body size means a number of controls are sealed within the touchscreen menu

It manages impressive shot-to-shot times, with a burst of eight raw and JPEG frames being cleared out to the card in an impressive 11 seconds, and the camera ready to shoot while still processing sooner than the others.

### Image quality

The E-PM1's main headache appears to be Auto White Balance, in that it often errs where the other models do not, usually towards warmer colour casts. This leads to its colours appearing a touch more saturated than expected. Its exposures are also a little brighter than the others; in some cases this makes them more suitable for immediate use, though in others the more balanced results of the NEX-C3 are preferable. Impressively the lower capacity JPEG results show good contrast over their raw counterparts, though.

### VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 12.3MP Live MOS |
| **FILE FORMATS** | Raw (ORF), JPEG, Raw + JPEG |
| **SHUTTER SPEEDS** | 60-1/4000th second, plus Bulb |
| **ISO** | 200-12,800 |
| **EXPOSURE MODES** | P, S, A, M, iAuto, Art, Scene |
| **METERING SYSTEM** | 324 zone Multi-pattern System |
| **WHITE BALANCE** | Auto, 7 preset |
| **DRIVE MODE** | Single, Cont, Timer |
| **MOVIE MODE** | 1080i HD video |
| **LCD** | 3in, 460k-dot LCD |
| **FOCUSING MODES** | Single, Cont, Manual, Tracking |
| **AF POINTS** | 35 selectable points |
| **MEMORY CARD** | SD (HC/XC) |
| **CONNECTIVITY** | Hi-Speed USB, HDMI |
| **POWER** | Rechargeable Li-ion |
| **WEIGHT** | 265g |
| **DIMENSIONS** | 109.5 x 63.7 x 34mm |

**VERDICT** **The Olympus E-PM1 ceratinly has its issues, from the overly warm Auto White Balance to the lack of a front grip, but these are quite minor problems. Overall image quality and usage were impressive, and the compact size a bonus. An easy to use camera with only a few small qualms, making it recommended for newcomers to the system.**

| SCORE | Features 18/20 | Performance 18/20 | Design 18/20 | Image quality 17/20 | Value 18/20 | 89% |
|---|---|---|---|---|---|---|

COMPACT

# Which compact is right for you?

## There are tough, long zoom, fixed lens and manual control compact cameras to choose from, so which type is best for you?

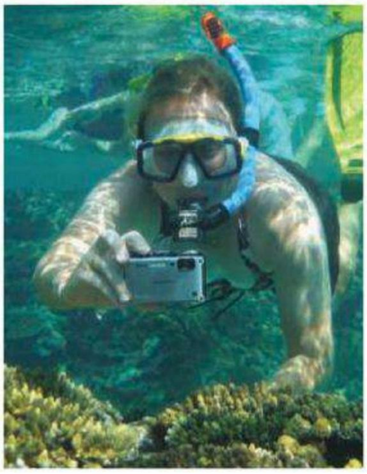
Anything with a fixed lens is, in essence, a compact camera. This covers models that can fit in a pocket through to those with huge optical zooms. Since there's such a wide range of options it's worth paying attention to the feature lists, because these often make a huge impact on the aesthetics.

The more traditional shape of compact camera is wider than it is tall, and can fit into a pocket quite easily. The feature set can differ quite wildly between models, from a large, touchscreen LCD monitor to a wideangle lens, or the ability to withstand the cold and rain.

At the budget end of this standard compact design the likes of the zoom, the LCD screen and design are quite basic. Batteries are often standard AA's rather than Lithium ion rechargeable options, but a decent model can be picked up for under £100. This makes the lower end of the market perfect for younger photographers or as a Christmas or birthday gift.

Head up a price band and you'll find that longer optical zooms, a larger screen and manual controls become more commonplace. Lithium ion batteries are also virtually assured, alongside a more solid build, while the likes of GPS – in order to tag images by location – also begins appearing.

At this price range 'tough' cameras also become available. Although outwardly looking quite similar to a standard model these compacts are able to stand up to being dropped from a height onto a hard surface, dunked underwater and frozen making them perfect choices for extreme sports.



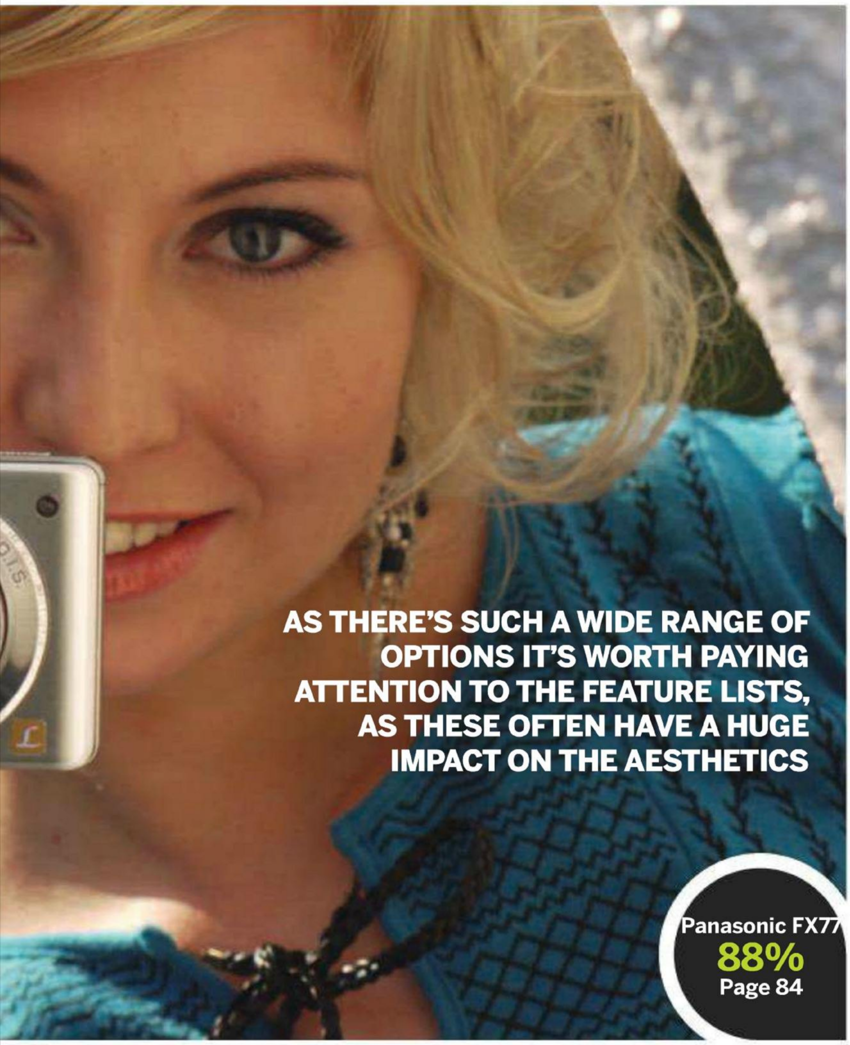
**Go Extreme**
**A fair few compacts can be taken underwater without destroying the delicate internal workings**

Heading toward the upper end brings about the optimum optical zoom level, 20x, largest LCD screen size, which can be up to 3.5in, and full manual controls. Some models, such as the Fujifilm X100 and Canon PowerShot G1 X, even offer a larger sensor to improve image quality.

Bridge cameras, also called superzoom models, are aimed almost entirely at providing the user with the largest possible amount of magnification in a fixed lens camera. As a result the bodies are quite bulky, looking similar to a reduced-size DSLR with a large grip for the right hand.

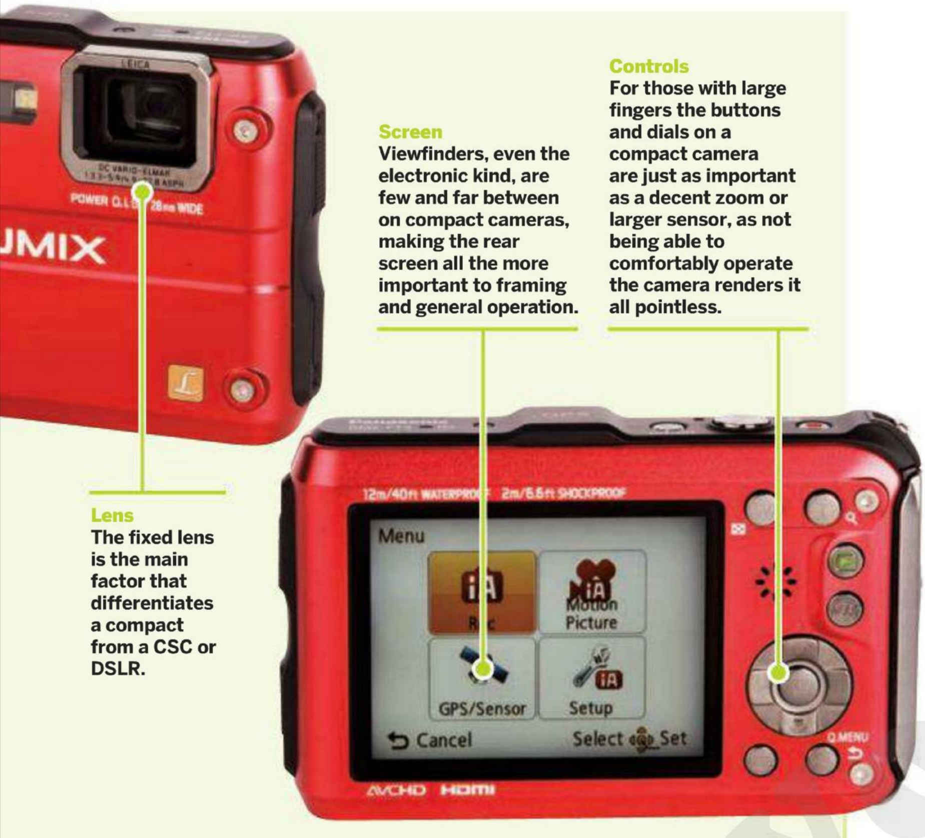
A number of compacts, especially those at the more expensive end of the market, offer a fixed lens as opposed to a zoom lens. Although this gives the camera the best possible optical quality, and makes it perfect for landscape photography, the lack of optical magnification does make it far less versatile.

**Design**
**Having such an impressive amount of tech in a small body makes the design all the more important, as accidentally activating a function or changing a setting can get extremely frustrating.**



**AS THERE'S SUCH A WIDE RANGE OF OPTIONS IT'S WORTH PAYING ATTENTION TO THE FEATURE LISTS, AS THESE OFTEN HAVE A HUGE IMPACT ON THE AESTHETICS**

Panasonic FX77
88%
Page 84



**Controls**
For those with large fingers the buttons and dials on a compact camera are just as important as a decent zoom or larger sensor, as not being able to comfortably operate the camera renders it all pointless.

**Screen**
Viewfinders, even the electronic kind, are few and far between on compact cameras, making the rear screen all the more important to framing and general operation.

**Lens**
The fixed lens is the main factor that differentiates a compact from a CSC or DSLR.

## Compacts Checklist

### 1 Price range

The amount of cash you want to spend makes a vast difference to the functionality and image quality you'll get. The prices can range from £60 to £1,000 with the likes of long zooms, HD movie recording, the ability to go underwater and manual controls being introduced in between.

### 2 Camera type

Selecting the type of camera you want revolves to some extent around the feature set. For example, if a zoom longer than 12x is needed a bridge model will be required, whereas if a camera capable of withstanding a drop or going underwater is required a tough camera might be needed. An average compact will be fine for taking a decent snap, but more specific usages might need a more involved camera.

### 3 Megapixels

The number of megapixels may be a focal point for some consumers, but by no means is it the only element to consider when buying a camera. Higher-resolution sensors may have the capacity to produce a detailed, high quality digital image, but without a decent lens in front of it and decent processing engine behind it the extra pixels are all but useless.

### 4 Lens quality

The optical quality of a lens makes just as much of an impact on image quality as the number of megapixels, making it all the more important as a feature. A huge zoom on a tiny compact, for example, won't perform well in low light due to the amount of glass between the light and sensor. This is why spending £50 on a 12MP compact with a plastic lens isn't a great idea if you want decent quality images.

### 5 Manual controls

Unlike with DSLRs and CSCs, manual controls aren't commonplace on compact cameras, meaning you may have to seek the features out or pay a touch extra.

### 6 HD video

Recording high-definition video isn't an assured feature either, as some models record in a lower-res variation. If you'd like to capture high quality movies be sure to look out for the movie mode, as anything below 1080 or 720p won't be considered true HD.

### 7 Build quality

The more you spend on a camera, the better the build quality is likely to be. A sturdier camera can withstand far more bashing around than a fragile plastic body, although if you're really concerned about damage a Tough camera may be worth considering. These models are built to withstand being thrown, submerged in water and frozen, amongst other things.

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COMPACT SYSTEM

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GOOD SERVICE AWARD 2012 What Digital Camera Photographer

## Nikon L25 £69

| | |
|---|---|
| **SENSOR** | 10MP, 1/3in CCD |
| **LENS** | 28-140mm f/2.7-6.8 |
| **LCD** | 3in, 230,000 dots |
| **FILE FORMATS** | JPEG, AVI |
| **ISO RANGE** | 80 - 1600 |
| **MEMORY CARD** | SD, SDHC,SDXC |
| **DIMENSIONS** | 96.2 x 60.4 x 29.2mm |
| **WEIGHT** | 171 g |

| | |
|---|---|
| **PROS** | Price, ease of use, build, low ISO image quality |
| **CONS** | High ISO image noise, lack of detail, sluggish AF |

The Coolpix L25 is a 10MP 5x zoom model with 720p HD movie capture. It's well made, easy to use and very cheap at just under £70.

The 28-140mm zoom lens is okay but the amount of detail the camera can capture is severely hampered by image processing (for noise issues) and the detail and colour that strips away.

HD video is also compromised looking rather muddy and jerky, but you get sound and zooming while filming, which is better than some more expensive models.

AF is slightly sluggish and the start-up time is nothing to write home about either but this is a sub-£70 compact. You do get electronic image stabilisation, exposure compensation, 18 scene modes and a Smart Portrait mode that can detect blinking, smiling and redeye.

So, the images might be soft but the rest of the features and the price makes it great value for those who are after a no-frills point'n'shooter.

**85%**

## Canon PowerShot A800 £79

With such a low price tag you could forgive the A800 for skimping on features, although the feature list offers a 3.3x optical zoom as well as a 10MP CCD sensor and Canon's DIGIC III processor. The only area where it feels that Canon has scrimped is the 2.5in, 115k-dot LCD screen.

The A800 doesn't feature the most refined design, with the body boasting a wedge-shaped form. The rest of the controls will be familiar to any compact camera user, and allow for easy operation. There are several niggles in use – the model's LCD screen struggles in harsh lighting, while the zoom features an amount of travel after removing your finger from the button. Image quality is generally reliable – colours appear rich while white balance errs to warmer tones. The camera does struggle though with dynamic range where highlights tend to blow out.

**85%**

| | |
|---|---|
| **PROS** | Low price tag, controls, wedge-shape body |
| **CONS** | Hard to zoom accurately, very poor LCD screen |

| | |
|---|---|
| **SENSOR** | 1/2.3in CCD, 10MP |
| **LENS** | 37–122mm f/3–5.8 |
| **LCD** | 2.5in, 115k-dot |
| **FILE FORMATS** | JPEG, AVI |
| **ISO RANGE** | 100 - 1600 |
| **MEMORY CARD** | SD / SDHC |
| **DIMENSIONS** | 94.3 x 61.6 x 31.2mm |
| **WEIGHT** | 186g |

## Olympus VG-170 £80

At under £100, the VG-170 is a pocketable, stylish snapper that will appeal to those on a tighter budget but who want some neat features. The plastic build is rather frail and the image quality is somewhat compromised by image noise and detail smoothing.

The unusually powerful flash is nice to have, particularly for indoor shots and low light work.

| | |
|---|---|
| **PROS** | Inexpensive, flash power, ease of use |
| **CONS** | Picture quality, video performance, build |

The camera's large 3in screen, while not the greatest quality, is more than usable in most shooting conditions.

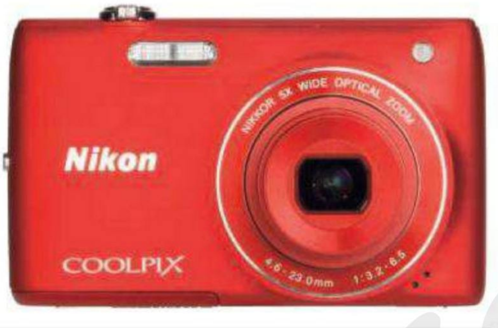
In fact the Olympus VG-170 makes the perfect budget snapper for those who don't require the pinnacle of image quality. In any event, it's a camera that is a bit of a surprise – first for its low price, and second, for its range of features.

In the final analysis though, it suffers from the compromises made to reach that low price point yet retain some higher-level tricks and tools.

**87%**

| | |
|---|---|
| **SENSOR** | 14MP, 1/2.3in CCD |
| **LENS** | 26-130mm f/2.8-6.5 |
| **LCD** | 3in, 460,000 dots |
| **FILE FORMATS** | JPEG, MP4 |
| **ISO RANGE** | 80 - 1600 |
| **MEMORY** | SD, SDHC, SDXC |
| **DIMENSIONS** | 103.7 x 62.5 x 22.2mm |
| **WEIGHT** | 147g |

## Nikon S4150 £139



| | |
|---|---|
| **SENSOR** | 14MP, 1/2.3in CCD |
| **LENS** | 26–130mm f/3.2-6.5 |
| **LCD** | 3in TFT, 460,000-dot touchscreen |
| **FILE FORMATS** | JPEG, MOV |
| **ISO RANGE** | 80 - 3200 |
| **MEMORY CARD** | SD, SDHC, SDXC |
| **DIMENSIONS** | 95 x 56.8 x 19.9mm |
| **WEIGHT** | 128g |

| | |
|---|---|
| **PROS** | Price, design, styling, touchscreen |
| **CONS** | Detail smoothed away, shadows filled in |

Nikon uses the word 'intuitive' to describe the camera and, in no small part thanks to the 3in touchscreen, this rings true. Other noteworthy elements of the model's specification include a 14MP, 1/2.3in CCD sensor and 5x optical zoom, while an EXPEED C2 imaging engine and 720p HD video also feature.

In terms of performance, the S4150 works very well. There's an inevitable lag between pressing the shutter button and a picture being taken, but you can circumvent that easily with the excellent touchscreen snapping capability. The touchscreen is suitably sensitive, although one drawback is the lack of non-screen controls.

The S4150's lens is sharp and covers a pleasing focal range. Images, however, have a lot of noise processing thrown at them and this smoothes away a lot of finer detail. On the whole, image quality is on a par with other cameras of this ilk, so it's good enough for most tasks.

**86%**

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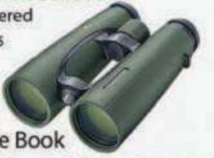

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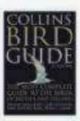

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## Panasonic S3

**£139**

Aimed at beginners, the Panasonic Lumix S3 has a 14.1MP sensor and 4x optical zoom that covers 28-112mm.

There's a 2.7in LCD screen and 720p HD video recording too. The S3 is a good-looking camera: its curved exterior and high-gloss finish works well, though the lightweight plastic feel lets it down.

The S3 can be operated with one hand if you wish – the rear buttons are located to the right of the LCD panel and make the camera very simple to use thanks to their raised finish and sensible layout. Image quality isn't as good as that of some rivals, since image noise is an issue at higher ISO settings. As well as Auto mode, there are six Scene modes that include Macro, Night and Portrait.

In summary, the Panasonic Lumix S3 is a solid option. The specification and image quality may not be the best but it's nevertheless a good all-round entry-level compact.

**PROS** Easy to use, design, optical image stabiliser

**CONS** Lightweight plastic feel, image noise at high ISOs

**85%**

**SENSOR** 14.1MP
**LENS** 28-112mm
**LCD** 2.7in, 230,000-dot Intelligent LCD
**FILE FORMATS** JPEG (DCF/Exif2.3)
**ISO RANGE** 100 - 1600
**MEMORY CARD** SD, SDHC, SDXC
**DIMENSIONS** 98.8 x 58.8 x 20.9mm
**WEIGHT** 117g

## Fujifilm Z90

**£149**

Cloaked in a slim-line metal body with a vertical sliding lens cover, the Z90 is aimed at those seeking a budget point and shoot model.

With a 14.2MP sensor and ISO 100-3200, its 28-140mm lens is wide enough for group shots. You've got 12 scene modes, a Scene Recognition mode, Program and a Motion Panorama mode that stitches three images together.

Most of the Z90's controls are activated by the touchscreen, which usually behaves itself. There's also the option to 'Touch & Shoot' – you tap the screen where you want to focus and fire the shutter all at the same time. But focusing is slow, particularly in low light.

Results are sound, with the Z90 providing good detail, neutral colours and decent Auto White Balance. The Z90 is good value, and a great option if you want an affordable well-specified camera that's easy to use. Just don't expect too much when it comes to performance.

**PROS** Price, build, simple operation

**CONS** AF can be slow

**86%**

**SENSOR** 14.2MP
**LENS** 28-140mm
**LCD** 3in touchscreen
**FILE FORMATS** JPEG and AVI
**ISO RANGE** 100 - 3200
**MEMORY CARD** SD/SDHC
**DIMENSIONS** 95.4 x 56.9 x 20.1mm
**WEIGHT** 133g

## Fujifilm T200

**£150**

**SENSOR** 14MP, 1/2.3in CCD
**LENS** 10x optical; 28-280mm
**LCD** 2.7in, 230k dots
**FILE FORMATS** JPEG and AVI
**ISO RANGE** 100 - 1600, extendable to 3200
**MEMORY CARD** SD/SDHC
**DIMENSIONS** 97 x 56.5 x 28.1mm
**WEIGHT** 151g

**PROS** Optical zoom range is great for the price, easy to use

**CONS** AF can be slow at times, plasticky body

The Fujifilm FinePix T200 is aimed at those looking for a well-specified compact at an affordable price. And as far as specification goes, it doesn't disappoint.

There's a 14MP sensor with an ISO range of 100-1600. For video capture, footage can be captured at 720p and it also has a 10x optical zoom range, running from 28-280mm, a 2.7in LCD screen at the rear with a resolution of 230k dots, while there are a host of shooting modes as well. The camera body is very compact – it's only 28.1mm thick including the protrusion of the lens.

Good levels of detail are preserved at lower ISOs, and while image noise is handled well at higher ISOs, the noise reduction applied does render images with a 'waxy' look.

If you're looking for a dependable compact camera that's easy to use and provides decent images, there are few at this price with a 10x zoom and the T200 is worth a look.

**88%**

## Nikon S6150

**£159**

**SENSOR** 16MP, 1/2.3in
**LENS** 28-196mm, f/3.7- 5.6
**LCD** 3in, 460k-dot touchscreen
**FILE FORMATS** JPEG, MPEG4
**ISO** 80 - 3200
**MEMORY** SD, SDHC, SDXC
**DIMENSIONS** 97.9 x 58 x 26.6mm
**WEIGHT** 172g

**PROS** Touchscreen, image quality, design, low price

**CONS** Focus accuracy, white balance, slightly bulky

The S6150 has a strong specification – it has 16MP, along with Nikon's EXPEED C2 image processing system and 28-196mm Nikkor lens. The rear houses a 3in touchscreen and there's 720p HD video capture, a scene selector auto mode and subject-tracking AF.

The design and build quality of the S6150 belie its low price tag. Despite the quality finish and attractive design, the S6150 is slightly bulkier than other compacts in the price range, but it is by no means cumbersome.

The S6150 is enjoyable to use and elements such as focus speed are prompt. However, despite this speed, the focus can sometimes struggle with accuracy.

The Nikon S6150 produces images to a decent standard. Sharpness is pleasing, while high ISO noise is also well controlled up to ISO 800. White balance can at times err to the slightly warm side, though this is generally not to the detriment of image quality on the whole.

**87%**

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## Panasonic SZ1 £170

The Panasonic Lumix DMC-SZ1 is a compact superzoom model that combines a 10x, 25-250mm lens with 16MP resolution and optical image stabilisation.

The small size and lack of a 'proper' handgrip means using the camera requires the wrist strap, but that's about it in terms of handling foibles. Given the camera's size the image stabilisation (Panasonic's MEGA OIS system) works well and helps keep things sharp at full zoom and in low light.

Picture quality, colour and white balance are great but image noise at sensitivities over ISO 400 is rather poor – ISO 800 and above should be avoided if possible. However, the 3in screen, nice control layout, great contextual menu system and overall ease of use, plus the low pricing make the Lumix SZ1 well worth considering if you have a tighter budget but still want a compact with a long optical zoom.

**89%**

| | |
|---|---|
| **PROS** | Zoom lens, styling, metal body, focusing |
| **CONS** | Purple fringing, no handgrip, high ISO noise |

**SENSOR**
16MP, 1/2.33in CCD
**LENS**
25-250mm f/3.1-5.9
**LCD**
3in, 230,000 dots
**FILE FORMATS**
JPEG, MP4
**ISO RANGE**
100 - 6400
**MEMORY CARD**
SD, SDHC, SDXC
**DIMENSIONS**
114 x 99 x 59.4mm
**WEIGHT** 114 g

## Canon IXUS 115 HS £179

**SENSOR**
12.1MP
**LENS**
28-112mm
**LCD**
3in LCD, 230k-dot
**FILE FORMATS**
JPEG, MOV
**ISO RANGE**
100 - 3200
**MEMORY CARD**
SD / SDHC
**DIMENSIONS**
93.1 x 55.8 x 19.9mm
**WEIGHT**
140g

| | |
|---|---|
| **PROS** | Design, image quality, strong specification |
| **CONS** | Lack of advanced features, low-end LCD |

Canon's IXUS 115 HS boasts a 4x optical zoom, 12MP sensor, Full HD 1080p movie recording and a 3in PureColor II G LCD screen.

The body has a brushed metal finish and is strikingly slim in profile, available in a variety of eye-catching colours. Add the fact that the LCD fills up most of the rear of the camera and it certainly has yet more visual impact.

In use, the model is lightning-quick in both focus and general operation. A 3.4fps burst mode also mirrors this speed.

The IXUS 115 HS's images are impressive as there's a great range of tone and the HS system does provide good low-light performance although the Auto White Balance tends to err on the warm side of the scale.

There was a time when even the lowest-specified member of the IXUS family would cost well over £200, but the IXUS 115 is currently available for a little over the £150 mark which is great value for such a compact.

**90%**

## Nikon S2600 £179

**SENSOR**
14MP, 1/2.3in CCD
**LENS**
26-130mm f/3.2- 6.5
**LCD**
2.7in, 230,000 dots
**FILE FORMATS**
JPEG, AVI
**ISO RANGE**
80 - 1600
**MEMORY CARD**
SD, SDHC, SDXC
**DIMENSIONS**
93.8 x 58.4 x 19.5mm
**WEIGHT**
121 g

| | |
|---|---|
| **PROS** | Low price, slim and pocketable body |
| **CONS** | LCD screen, image quality issues, usability flaws |

The Nikon S2600 is readily pocketable at just 19.5mm thick, has a 14MP 1/2.3in CCD sensor and 5x NIKKOR optical zoom.

Other elements worthy of note are the ISO range of 80 to 1600 – extendable to 3200 in reduced resolution mode – as well as the 2.7in LCD.

The S2600 is relatively capable in use. Focus speeds aren't the fastest, with the camera struggling in tricky lighting conditions, though well-lit scenes don't pose much of a problem.

Unfortunately image quality is one area in which the S2600 fails to excel. While exposures are generally reliable, and shadow detail is generally well preserved, highlights all too readily blow out, even in well-lit scenes. Colour rendition is generally good and true-to-life, while white balance is reliable. It's also true that most of these flaws will only cause major problems when inspecting images close up rather than from a wide angle.

**81%**

## Nikon S6200 £179

With a 10x optical zoom lens the Nikon Coolpix S6200 packs an optical punch while the 16MP sensor is accompanied by an EXPEED C2 image-processing system.

The Coolpix S6200 is billed as a pocketable compact, although the 10x optical zoom does mean it errs on the bulky side and is noticeably thicker than similarly-sized compacts. Despite its relative bulk, the compact still handles well. Buttons on the rear are well arranged with a clear space afforded as a thumb grip, which itself allows for a steady hold of the camera.

In use, the S6200 is hit and miss. Its Auto White Balance is reliable although the same cannot be said of the model's focus system which can hunt for accurate focus even in good conditions. Image quality is reasonable, although the S6200 displays a limited dynamic range and softness is apparent, which worsens towards the edges of the frame.

**82%**

| | |
|---|---|
| **PROS** | Low price tag, large focal range |
| **CONS** | Focus system issues, bulky body |

**SENSOR**
16MP, 1/2.3in
**LENS**
25-250mm, f/3.2 - 5.6
**LCD**
2.7in, 230,000 dots
**FILE FORMATS**
JPEG, MPEG 4
**ISO RANGE**
80 - 3200
**MEMORY CARD**
SD, SDHC, SDXC
**DIMENSIONS**
93 x 58 x 26mm
**WEIGHT** 160g

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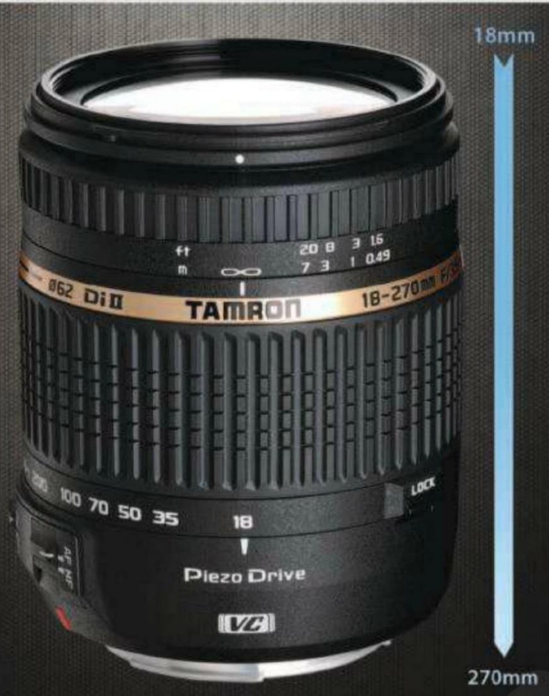

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## Olympus SH-21 £179

A compact and lightweight camera, the SH-21 slots into Olympus's Traveller range and provides a superbly versatile 24-300mm lens, 16MP resolution images and 1080p HD video with sound. Touchscreen technology means AF and capture can be undertaken by simply touching the LCD screen, although this isn't always desirable as it often means one-handed operation and, as a result, blurred images. Image quality is good, as is video quality, although contrast is lacking and detail can be smoothed away by image processing.

However, given its price and all the fun filters such as Miniature, Watercolour and Pop Art, to name a few, it is very good value indeed. If you're after a lightweight pocketable snapper, with a great and versatile zoom lens plus enough quality and kit to snap most things, still or moving, then the SH-21 should be high on your list.

| | |
|---|---|
| **PROS** | Price, menus, video mode, image quality |
| **CONS** | Image noise, touch snap system |

**89%**

**SENSOR**
16MP, 1/2.3in CMOS
**LENS**
24-300mm f/3-5.9
**LCD**
3in, 460,000 dots
**FILE FORMATS**
JPEG, MPEG 4
**ISO RANGE**
80 - 3200
**MEMORY CARD**
SD, SDHC, SDXC
**DIMENSIONS**
105.4 x 59.4 x 30.6mm
**WEIGHT** 184 g

## Olympus SZ-14 £179

**SENSOR**
14MP, 1/2.3in CCD
**LENS**
25-600mm f/3-6.9
**LCD**
3in, 460,000 dots
**FILE FORMATS**
JPEG, MPEG 4
**ISO RANGE**
80 - 1600
**MEMORY CARD**
SD, SDHC, SDXC
**DIMENSIONS**
106.5 x 68.7 x 39.5mm
**WEIGHT**
216 g

| | |
|---|---|
| **PROS** | Price, zoom, build, image quality |
| **CONS** | Video quality limited to 720p, noise at high ISOs |

Olympus's latest addition to its Super Zoom (hence SZ in the name) camera range is the stylishly sculpted SZ-14. It is a pocketable compact with an astonishing 25-600mm lens and 14-megapixel sensor.

The camera is lightweight and even with the lens out and active, is not overly cumbersome making handling a simple experience. Image quality is great at lower sensitivities, but when you get to ISO 800 or the top setting of ISO 1600 then it's another, rather disappointing matter.

It comes with a neat set of features including panoramic modes that offer in-camera stitching, Magic filters and a menu system that is both easy to use and understand.

The £199.99 price point makes it great value for money too; and provided that you stick to the lower sensitivity settings and have the image stabilisation switched on when shooting at lower focal lengths, the Olympus SZ-14 comes highly recommended.

**89%**

## Panasonic FS16 £179

The Panasonic Lumix DMC-FS16 is a 14MP budget-conscious compact with a 720 HD movie mode and 4x optically-stabilised zoom.

Its 2.7in LCD does the job of previewing and reviewing images in a perfectly acceptable manner.

In terms of design very little has changed between this raft of Lumix compacts and those from 12 months ago. The controls on the back panel are a touch small, with the Mode button being particularly recessed into the shell. Annoyingly a small switch is provided for moving between playback and record modes, making it a far longer process to change between the two than a non-physical method.

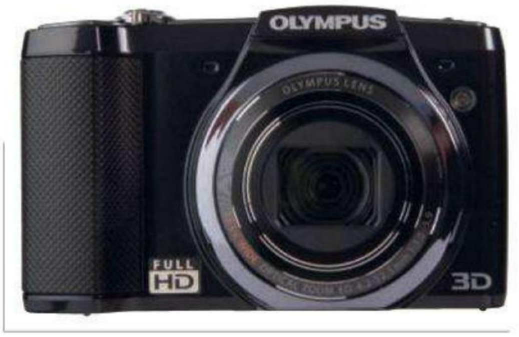
Image quality is decent: tones tend to be bland but accurate, with a firm grip on midtones. Dynamic range is varied, giving a decent level of detail, though beyond ISO 400 image noise starts to creep in and ISO 1600 is almost unrecognisable from images at lower ISOs.

| | |
|---|---|
| **PROS** | Inexpensive, feature set, image quality |
| **CONS** | Uninspired design, budget build quality |

**85%**

**SENSOR**
14.1MP, 1/2.33in
**LENS**
28-112mm f/3.1-6.5
**LCD**
2.7in, 230k dots
**FILE FORMATS**
JPEG, AVI M-JPEG
**ISO**
100-6400
**MEMORY**
SD/SDHC
**DIMENSIONS**
94.3 x 53.5 x 18.8mm
**WEIGHT** 118g

## Olympus SZ-20 £199



**SENSOR**
16MP
**LENS**
24-300mm f/3-5.9
**LCD**
3in TFT screen, 460k-dot
**FILE FORMATS**
JPEG, MPEG-4
**ISO RANGE**
80 - 3200
**MEMORY CARD**
SD , SDHC, SDXC
**DIMENSIONS**
102.4 x 64 x 30.4mm
**WEIGHT**
186g

| | |
|---|---|
| **PROS** | Large LCD screen, good focal range, HD video |
| **CONS** | Murky images, plasticky body |

Olympus's SZ-20 features a 12.5x optical zoom lens, a 16MP 1/2.3in backlit CMOS sensor and continuous shooting up to 9fps, albeit in reduced resolution mode.

An impressive 3in, 460k-dot LCD adorns the rear while the body has a retro and angular feel to it and sits very easily in the hand when shooting.

In use, the SZ-20 proves to be pleasing and reliable.

Even though the SZ-20 has to cram a 12.5x optical zoom into a compact body, the lens itself performs relatively well and keeps fringing to a minimum, although softening is an issue that increases towards the corner of the frame.

Image noise is noticeable once you start heading higher up through the ISO range, with ISO 800 a realistic limit if you'll be looking to enlarge your prints. The model's sensor also appears to be a little bit overcrowded with pixels, as harsh compression is evident when inspecting images at close range.

**85%**

## Panasonic DMC-SZ7 £200

The Panasonic Lumix DMC-SZ7 combines a 10x optical zoom with a 14MP sensor as well as the ability to record 1080p HD movies, and both zoom and AF are available when recording. There's plenty to admire from a technical perspective, including a max ISO of 3200 and 10fps at full quality.

The 'Lightspeed AF' is extremely rapid at the wide angle, and the shot-to-shot rate is particularly impressive. Meanwhile the lens, at 25-250mm, is an extremely useful range for landscape, macro and action photography. The slim, matte shell of the SZ7 is something of a feature in itself too, as the aesthetics are extremely pleasing.

In terms of image quality the SZ7 does a fairly decent job of dealing with the noise the camera generates. The end result loses some edge sharpness and a touch of tonal range, but viewed from a normal distance the results are acceptable.

**87%**

**PROS** Well featured, easy to use, decent images

**CONS** Processing at all ISO levels, muted tones

**SENSOR**
14.1MP
**LENS**
25-250mm, f/3.1-5.9
**LCD**
3in
**ISO RANGE**
100 - 6400
**MEMORY CARD**
SD/SDHC
**DIMENSIONS**
99.0 x 59.4 x 21.0mm
**WEIGHT**
133g

## Fujifilm F600EXR £219

**SENSOR**
16-megapixel 1/2in
**LENS**
15x optical zoom (24-360mm equiv.)
**MOVIE MODE**
Full HD 1080p movie
**LCD**
3in, 460k-dot LCD
**MEMORY CARD**
SD/SDHC
**DIMENSIONS**
103.5 x 62.5 x 32.6mm
**WEIGHT**
220g

**PROS** Great value, 24-360mm zoom, Raw files

**CONS** Raw write time, flaring, similar to predecessor

The F600 offers a rangey 24-360mm optical zoom and its 16-megapixel 1/2in sensor has Fuji's EXR technology.

This is squeezed into a small body considering the massive 15x zoom range.

The EXR technology means the sensor is performance-optimised for either maximum resolution, low-light performance or dynamic range. As well as shooting in JPEG, the FinePix F600EXR can also capture Raw files, while in addition 1080p HD movie clips can be recorded at 30fps.

Autofocus is fast, precise and accurate. Although the camera's rear screen is a decent 3 inches in size and has a 460k-dot resolution we found it to be contrasty in preview and playback. We found the F600's 16MP images to be good for the most part producing decent results, although vignetting at the wideangle settings, unexpected flare from light sources and some lack of detail due to the processing each do present their own issues.

**89%**

## Fujifilm Z900 EXR £219

**SENSOR**
16MP
**LENS**
28-140mm f/3.9-4.9
**LCD**
3.5in touchscreen, 460k-dot
**ISO RANGE**
Auto, ISO 100 - 3200
**MEMORY CARD**
SD, SDHC, SDXC
**DIMENSIONS**
100.8 x 59.0 x 18.2mm
**WEIGHT**
151g

**PROS** Responsive touchscreen, slim body, fast focusing

**CONS** Colours a little flat, position of lens

Fuji's Z900 EXR sports a 1/2in-sized 16MP back-illuminated CMOS chip, based on the company's EXR technology, plus a 5x optical zoom lens and EXR Auto mode, which automatically selects one of 27 scene modes to fit the subject, while Full HD video capture is also on hand.

The front is dominated by a sliding lens cover that turns the camera on and off, and almost all controls are accessed through the large touchscreen. Subjects are promptly brought into focus, and the camera continuously focuses as it's moved or while the zoom is being operated.

At default settings images lack a little vibrancy and contrast, although high-ISO results are noticeably better than those from similar compacts.

Exposures are good and the Auto White Balance system is a little bit more reliable, but close-up viewing does show images to be affected by noise reduction and other artefacts.

**87%**

## Casio EX-ZR10 £249

The EX-ZR10 captures slow-motion movies at a maximum rate of 480fps, at a resolution of 224 x 160 pixels, and 40fps stills at just shy of 10MP. But its other features are just as impressive. The 12.1MP sensor is back-illuminated, equipped with a shifting system for image stabilisation. Also we have a 7x zoom lens beginning at 28mm and Full HD movie capture at 30fps.

**PROS** Image quality, plenty of features, design

**CONS** Oversharping, low res high-speed video

The ZR10 is responsive and operates discreetly, with excellent shot-to-shot times and a clear, detailed screen. Focusing is also quick, with the Intelligent AF mode rapidly adjusting to any scene changes.

Colour leans more towards vibrant than faithful but exposures are largely accurate. There's little distortion from the lens, but when images are viewed close up oversharpening is apparent. Artefacts are also common to images taken on lower sensitivities, which compromises detail.

**90%**

**LENS**
28-196mm f/3.0-5.9
**SENSOR**
1/2.3in CMOS, 12.1MP effective
**ISO**
Auto, 100 - 3200
**LCD**
3in, 460.8k dots
**DIMENSIONS**
101.9 x 58.7 x 27.4mm
**WEIGHT**
149g
**MEMORY CARD**
SD, SDHC, SDXC

## Nikon S100 £249

In keeping with the sleek first impression of the S100, the model has a large OLED touchscreen. This measures 3.5in and has a 819k-dot resolution. There's a 16MP back-illuminated CMOS sensor too, supported by Nikon's EXPEED C2 image processor. Despite featuring a slimline sliding cover design, the Coolpix S100 still houses a 5x optical zoom of 28-140mm.

The touchscreen performs well and offers excellent image rendition. Menus are easily negotiated and several usability tweaks, such as touch shutter release, will be familiar to those accustomed to touchscreen smartphones.

Image quality is generally impressive for a compact. Colours display a pleasing, natural palette, aided by reliable Auto White Balance. However, noise can hamper fine detail at higher ISOs, making low light shooting tricky, while there is softening at the edges of the frame throughout the focal range.

**85%**

| | |
|---|---|
| **PROS** | OLED touchscreen, image quality |
| **CONS** | Image noise at high ISOs, price tag |

**SENSOR**
16MP, 1/2.3in
**LENS**
28-140mm, f/3.9-4.8
**LCD**
3.5in OLED touch panel
**ISO RANGE**
125 - 3200
**MEMORY CARD**
SD, SDHC, SDXC
**DIMENSIONS**
99 x 65.2 x 18.1mm
**WEIGHT**
138g

## Samsung MV800 £249

**SENSOR**
16.1MP
**LENS**
5x optical zoom (26-130mm)
**LCD**
3.0in, 288k-pixel touchscreen
**ISO RANGE**
100 - 3200
**WEIGHT**
121g
**DIMENSIONS**
92 x 56.2 x 18.3mm

| | |
|---|---|
| **PROS** | Great touchscreen, intuitive interface |
| **CONS** | Poor high ISO images, AF can be a touch slow |

The Samsung MV800 takes a unique approach to compact camera design, offering a rear screen that can be pulled away from the body.

There's also a 16.1MP CCD sensor with an ISO range of 100-3200 and a 5x optical zoom lens that runs from 26-130mm.

The 3in touchscreen features a resolution of 288k pixels and is hinged on the top of the body, allowing it to be pulled outwards 180° should you wish. Because the shutter button is obscured in this position there's a secondary shutter release on the rear of the body behind the screen.

The Samsung MV800 is a very sleek-looking product and is finished to a high standard. The camera delivers decent results in Auto White Balance mode, and detail at lower ISO settings is good, but at ISO 800 and above in-camera processing softens the JPEG files in an effort to suppress image noise, thus making shooting at high sensitivities undesirable.

**88%**

## Sony H55 £249

**LENS**
25-250mm f/3.5-5.5
**SENSOR**
14.1MP
**ISO RANGE**
Auto, 80 - 3200
**LCD**
3in TFT, 230,400 dots
**DIMENSIONS**
102.9 x 57.7 x 28.9mm
**WEIGHT**
170g
**MEMORY CARD**
Mem Stick Duo, SD, SDHC, SDXC

| | |
|---|---|
| **PROS** | Image quality in good light, LCD quality, performance |
| **CONS** | Image noise-reduction compromises detail |

Sony's H55 is one of the most recent additions to the mid-zoom compact genre. Its lens spans a focal range from a wideangle 25mm to an impressive 250mm at the long end, while a 14.1MP CCD sensor and a 3in LCD screen also feature. There's plenty of functionality tucked away in the menu options too, including Sweep Panorama and a 720p HD movie recording mode.

The H55 bears more than a slight resemblance to Panasonic's rival TZ range, but its grip is less defined and there are fewer direct controls. The small menu pad on the rear can be awkward to operate comfortably.

The LCD maintains good colour and contrast, which continues in low light, and images are of a high standard. In good light the quality of results exceeds expectations, with high detail and dynamic colour. Sharpness continues up to the edges of the frame, dipping in the corners. Perhaps the biggest problem concerns image noise and the attempts to remove it, which can compromise detail due to over-processing.

**85%**

## Nikon S8100 £259

The Jessops exclusive Nikon Coolpix S8100 has some impressive specs on paper, from the 12MP sensor to the 10x optical zoom lens and five kinds of anti-shake technology.

Other useful features include a 3in LCD touchscreen and a sensitivity range of up to ISO 3200 at full resolution.

The body is neither thin nor small, but the build is strong and feels robust. Manual controls are restricted to the likes of ISO and white balance, making it impossible to make alterations to shutter speed or aperture when shooting. At times the touchscreen can be unresponsive.

In terms of image quality the S8100 performs very well. Sharpness is stunning and camera motion didn't seem to throw up many focus issues, no doubt thanks in part to the image stabilisation built in. Up to ISO 800 the post-processing holds up well, but beyond this results are heavily processed and lacking fine detail.

**85%**

| | |
|---|---|
| **PROS** | Excellent image sharpness, well built |
| **CONS** | Touchscreen control issues, few manual controls |

**LENS**
30-300mm, f/3.5-5.6
**SENSOR**
12.1MP, 1/2.3in
**ISO RANGE**
160 - 3200
**LCD**
3in, 921k dot
**DIMENSIONS**
104 x 59.2 x 29.9mm
**WEIGHT**
209g
**MEMORY CARD**
SD, SDHC

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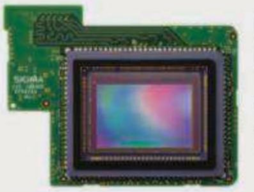

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## Ricoh CX5 £260

The CX5 is an impressive advanced compact from Ricoh. This model features a 10MP 1/2.3in backlit CMOS sensor, 10.7x optical zoom, covering a focal range of 28-300mm in equivalent terms, and a 3in, 920k-dot LCD screen. New additions to the model relative to its predecessor are minimal, however, with AF times improved and internal processing also showing faster times. The design of the camera is identical to that of its predecessor, with the same pleasingly retro feel.

The CX5 is fast in use for both capture and processing, while the menu system is easy to use and the LCD screen detailed. Image quality is excellent, with a good tonal range and a distinct lack of distortion from the lens. The real downfall is the lack of manual modes and Raw capture as well as distinctive improvements over its predecessor, though it's still a worthy member of the advanced compact club.

| | |
|---|---|
| **PROS** | Good image quality, LCD screen, design |
| **CONS** | Lack of manual mode, no Raw capture |

**86%**

**LENS**
28-300mm, f/3.5-5.6
**SENSOR**
10MP
**ISO**
80 - 3200
**LCD**
3in, 920k-dot screen
**DIMENSIONS**
101.5 x 58.6 x 29.4mm
**WEIGHT**
197g
**MEMORY**
SD / SDHC

## Fujifilm HS20 £269

The Fujifilm FinePix HS20 EXR updates the HS10 model and is an eagerly-anticipated and much-hyped release. The Fuji HS20's 30x optical zoom lens (24-720mm in 35mm equivalent terms) is, without doubt, the foremost and best feature on offer.

Behind the scenes the HS20 utilises a 16-megapixel, back-side illuminated (BSI) CMOS sensor with EXR processing technology and sensor-shift image stabilisation technology.

Where the HS20 comes a little undone is with its reasonable, though not staggering, image quality. The latest sensor is, frankly, over-populated in pixel count (the HS10 produced better images) and even the half resolution (8MP) EXR output can only provide so much of an improvement. For HS10 users hoping for a new revelation, this isn't the worthy upgrade, simply because too few improvements are made, though there's plenty to admire.

| | |
|---|---|
| **PROS** | Manual zoom control, image quality |
| **CONS** | 16MP image quality detail can lack |

**88%**

**SENSOR**
16MP
**LENS**
24-720mm 30x zoom
**LCD**
3in, 920k-dot, tilt-angle
**ISO**
160 - 3200
**MEMORY CARD**
SD, SDHC, SDXC
**WEIGHT**
730g
**DIMENSIONS**
130.6 x 90.7 x 126.0mm

## Panasonic FX77 £269

**SENSOR**
12.1MP
**LENS**
24-120mm f/2.5-5.9
**LCD**
3.5in touchscreen LCD
**ISO RANGE**
100 - 1600
**MEMORY CARD**
SD, SDHC, SDXC
**DIMENSIONS**
99.7 x 55.2 x 20.55mm
**WEIGHT**
124g

| | |
|---|---|
| **PROS** | Large screen, good stills and video quality |
| **CONS** | LCD screen, lack of image detail, small zoom rocker |

The FX77 is another of the mid-range compacts to adopt a large touchscreen LCD in place of practically all physical controls. The 3.5in screen fills the rear of the model and displays images and videos at a 230k-dot resolution. Inside the camera a 12.1MP sensor allows for full HD video recording. The model also squeezes in a 24-120mm zoom lens with mechanical image stabilisation, while functionality includes Face Recognition and AF tracking for moving subjects.

At just over 20mm thick the FX77 should fit into even tight pockets, while the simplicity of its external controls makes for an attractive and minimal design. Although the screen's resolution is disappointing, the display itself is clear and the touchscreen's controls are responsive.

The camera's metering system is largely spot on and colours are also pleasing, although now and again the camera's Auto White Balance system does have a tendency to be a little warm.

**88%**

## Panasonic FX90 £269

**SENSOR**
12.1MP 1/2.33 CCD
**LENS**
24-120mm f/2.5-5.9
**LCD**
3.0in, 460k-dot LCD touchscreen
**ISO**
100 - 1600
**MEMORY CARD**
SD, SDHC, SDXC
**DIMENSIONS**
102.2 x 56.3 x 21.6mm
**WEIGHT**
149g

| | |
|---|---|
| **PROS** | Touch AF can be handy, well-made |
| **CONS** | Touchscreen slow to use, average image quality |

The Lumix FX90 has a 12.1MP CCD sensor with an ISO range from 100-1600, while the lens offers a broad 5x optical zoom range covering 24-120mm in equivalent terms.

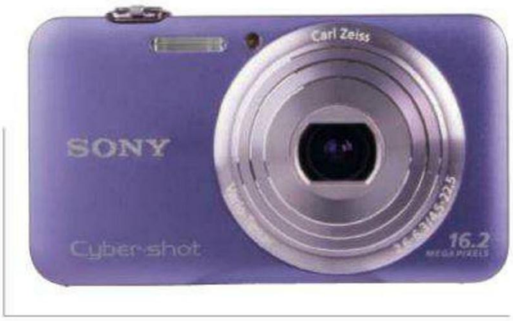
If you want to shoot video, the FX90 can record at full HD 1080p while there's built-in wireless connectivity, as well as a 3in touchscreen with a resolution of 460k dots. Because of the touchscreen interface, the FX90 is devoid of many exterior buttons, with most functionality offered through the screen. The touchscreen is pretty good, though you have to be quite precise with your finger presses, while a bit of downward pressure is required.

Image quality-wise the Panasonic DMC-FX90 delivers a decent, although somewhat unspectacular, set of results. The touchscreen is a little too sluggish and it would have been nice to have seen more thought put into the design. Having said that, there are some nice touches and the lens is good.

**86%**

## Sony WX7

**£269**



**SENSOR**
16.5MP
**LENS**
25-125mm f/2.6-6.3
**LCD**
2.8in LCD
**ISO RANGE**
Auto, 100 - 3200
**MEMORY CARD**
MS, SD, SDHC, SDXC
**DIMENSIONS**
92.2 x 51.9 x 19.1mm
**WEIGHT**
120g

| | |
|---|---|
| **PROS** | Clear screen, highly specified, smart design |
| **CONS** | Too small, processing of artefacts, small screen |

Sony's WX7 incorporates a 16.2MP Exmor R sensor with a 25-125mm lens and 1080i video recording among its specifications. Its 2.8in LCD screen isn't particularly large, but at 460k it has a higher resolution than we're used to at this price.

All controls are marked clearly, although as it is a relatively small compact, those with larger hands are likely to find it a little awkward to use. Focusing speed is excellent, and the screen's wide viewing angle is equally impressive, although in strong light it's a bit tricky to see.

The WX7's images show little chroma noise, although images throughout the sensitivity range display a coarse texture, as well as processing artefacts and some degree of oversharpening. Detail is good and the metering system largely succeeds in balancing a range of difficult lighting conditions, while colours are saturated enough to give pleasing results but not so much that it distances them completely from all semblance of reality.

**90%**

## Nikon S8200

**£279**

**SENSOR**
16MP backlit
**LENS**
14x optical zoom
**ISO**
80-3200
**LCD**
3in LCD screen
**SIZE**
103 x 59 x 32mm
**WEIGHT**
213g
**MEMORY**
SD / SDHC

| | |
|---|---|
| **PROS** | Compact build, image quality, 921k-dot LCD |
| **CONS** | Some focus issues, no manual control |

The S8200 is equipped with a 16MP backlit CMOS sensor and 14x optical zoom (24-350mm equiv.) lens.

Although the S8200 lacks full manual controls, its main mode dial comes laden with shooting modes including a 6fps burst option. Considering the 14x optical zoom lens the Coolpix S8200 manages to keep its size suitably small and this makes the camera an attractive prospect.

Also unlike its rivals the S8200 lacks manual controls, instead concentrating on the camera's various Effects modes including Selective Color, Soft, Sepia, Mono and High/Low key.

Another boon is the 921k-dot LCD screen – a high quality, high-resolution feature that's good to see at this price.

The S8200's rangey zoom and picture quality get a thumbs up but the lack of manual controls and Raw shooting make it a proposition for the more point-and-shoot minded rather than the aspiring pro.

**85%**

## Casio ZR100

**£299**

The ZR100 is indeed a step forward in Casio's portfolio. While the company seems to have spent much of its promotional time talking about the HDR Art mode there are loads more top features here that ought to be given far more credit.

The new back-illuminated CMOS sensor produces great images from ISO 100-400 and close-up macro works a treat. Though ISO 800 through to ISO 3200 are much softer the results are better than those of a number of rival compacts.

The ZR100's autofocus system is also generally very on the ball and the AF Area modes know which areas of interest to focus on. Add to this manual controls, plus a reasonable Full HD movie mode that can utilise all of the optical zoom, and there's very little missing from this release.

If you're looking to buy a decent compact for £300 then the Casio ZR100 doesn't do a bad job of justifying the money outlayed at all.

| | |
|---|---|
| **PROS** | Macro mode, ISO 100- 400 quality, manual controls |
| **CONS** | Clunky menu system, flash can be obstructed |

**85%**

**LENS**
12.5x optical zoom
**SENSOR**
12.1MP
**ISO**
100-3200
**LCD**
3in, 460k-dot
**DIMENSIONS**
104.8 x 59.128.6mm
**WEIGHT**
205g
**MEMORY**
SD/SDHC/SDXC

## Canon IXUS 310 HS

**£299**

The IXUS 310 HS feels as though it's been carved straight out of a lump of metal, and Canon hasn't skimped on the inside either, as a 12.1MP sensor and stabilised 5x optical zoom feature.

There's also a 461k-dot LCD screen, which measures 3.2in across its diagonal and boasts touchscreen functionality for operating the majority of controls. 1080p HD movie recording with stereo sound is also provided.

Operating the camera is straightforward thanks to large and responsive buttons throughout (although navigating the menus is a little bit tricker). The camera responds well elsewhere, autofocusing in good time and with minimal sound from the lens.

Images are detailed, both colour and exposure are accurate, while noise across the whole sensitivity range is minimal. Highlight details can get a little lost, though.

| | |
|---|---|
| **PROS** | Excellent build quality, style, good image quality |
| **CONS** | Awkward touchscreen, chromatic aberrations |

**88%**

**SENSOR**
12.1MP
**LENS**
24-120mm f/2-5.8
**LCD**
3.2in touchscreen
**ISO RANGE**
100-3200
**MEMORY CARD**
SD, SDHC, SDXC
**DIMENSIONS**
100.6 x 55.4 x 25.0mm
**WEIGHT**
185g

## Panasonic FX550 £299

The Panasonic Lumix DMC-FX550 has a 3in touchscreen LCD, 12.1MP sensor and 5x optical zoom Leica lens that provides a wide 25mm to mid 125mm in the zoom department.

Those looking for more advanced options will be glad to know that the inclusion of fully manual modes (PASM), as well as ISO sensitivity controls are present. Image quality too can be noisy at the higher ISO ranges – something avoided with the vibrant images at the lower sensitivities.

The Lumix FX550 is easy to use, further championed by the 3in touchscreen LCD, manual modes, AF tracking and 25mm wideangle lens. On occasion the autofocus may be a little slack and image quality in low light can wane, but with the other options on the table it's more than forgivable. Pick up this wideangle compact at the right price and you'll be more than satisfied with the results it can produce.

| | |
|---|---|
| **PROS** | 25mm lens, touch-screen, manual controls |
| **CONS** | AF can lag, image noise, fiddly touchscreen |

**91%**

**SENSOR**
12.1MP, 1/2.33in CCD
**LENS**
5x optical zoom
**LCD**
3in 230k dots
**ISO RANGE**
80 - 1600
**MEMORY CARD**
SD/SDHC
**DIMENSIONS**
95 x 57 x 22mm
**WEIGHT**
167g

## Nikon P300 £299

**LENS**
4.2x zoom lens
**SENSOR**
12.2MP 1/2.3in CMOS
**LCD**
3in LCD
**ISO**
80-1600
**MEMORY CARD**
SD/SDHC
**DIMENSIONS**
103 x 58 x 32mm
**WEIGHT**
190g

| | |
|---|---|
| **PROS** | Small size, bright aperture at wideangle, 1080p |
| **CONS** | No Raw, lack of control buttons, no manual focus |

The 12.2-megapixel Nikon P300 includes a 4.2x optical zoom lens with image stabilisation and an f/1.8-4.9 aperture.

With full manual controls, a 3in, 921k-dot LCD screen and 1080p movie capture, there's also Auto for point-and-shoot ease.

The P300's pictures are reasonable, but the standard-sized compact sensor doesn't allow the camera to excel above and beyond a number of other compacts at the same price point. The main sell is the f/1.8 aperture for low-light shooting and more pronounced shallow depth of field.

In use, the P300 powers up promptly for shooting and is swift to focus. However there's no manual focus or Raw file capture.

The P300 is a success, although there's no Raw capture or manual focus. Still, for its £300 asking price the P300 works well and looks decent. It's among the best Coolpix cameras on the market, and competes well with other models in the same price range.

**86%**

## Canon PowerShot D10 £319

Canon's first waterproof compact, the PowerShot D10, boasts water resistance up to 10m, shock resistance for a fall of 1.3m onto a hard surface, and can operate in temperatures down to -10°C.

The D10 sports a 12.1MP sensor, 3x optical zoom (35-105mm equivalent) with image stabilisation, coupled with Canon's DIGIC IV processor. It also boasts a 2.5in PureColour LCD II, which Canon claims offers twice the levels of brightness of a normal LCD screen, which is no doubt an advantage in the water.

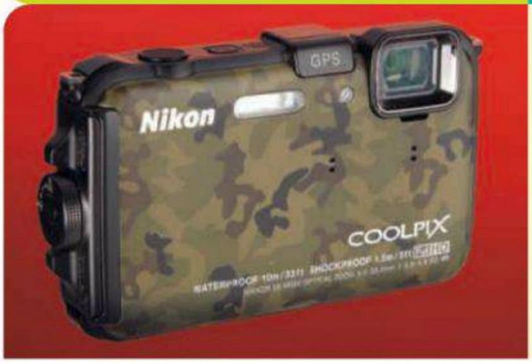
In use, the D10 boasts the prompt AF system and image processing of its non-waterproof Canon stablemates, and the buttons are easy to operate both in and out of the water. Image quality is as reliable as you'd expect from Canon optics, while the strap sets provide the most secure carrying option of most shockproof compacts.

| | |
|---|---|
| **PROS** | Excellent image quality, easy to use, quick focus |
| **CONS** | A touch expensive |

**86%**

**LENS**
3x zoom lens
**SENSOR**
12.1 MP
**LCD**
2.5in LCD
**ISO**
80 - 1600
**MEMORY CARD**
SD/SDHC
**DIMENSIONS**
103 x 67 x 49mm
**WEIGHT**
212g

## Nikon AW100 £329



**SENSOR**
16MP CMOS
**LENS**
5x optical zoom
**LCD**
3in LCD
**MEMORY**
SD/SDHC/SDXC
**ISO**
125 - 3200
**DIMENSIONS**
65 x 110 x 23mm
**WEIGHT**
178g

| | |
|---|---|
| **PROS** | Features, tough credentials, image quality |
| **CONS** | Expensive, power usage, image noise |

Nikon's Coolpix AW100 is a 16MP CMOS sensor, GPS capable waterprof, shockproof and freeze-proof compact. Image quality is good but is slightly let down by image noise even at the lowest sensitivity setting of ISO 125. On a more positive front, up to ISO 400, noise doesn't increase much, while at ISO 800 noise becomes worse and ISO 3200 is very poor indeed.

Landscapes are nicely captured (at lower ISOs, where detail is retained the best). The camera is also more than capable of making a good fist of portraiture.

The thing most likely to be its biggest drawback is that at £300 the model is at the pricier end of the ruggedised camera market. However, given the excellent feature set and clever control options and the potential for creative shooting via features such as the sweep panorama and no fewer than 19 Scene modes, the AW100 is a pricey yet excellent entry into the rugged camera marketplace.

**86%**

## CANON IXUS 500 HS

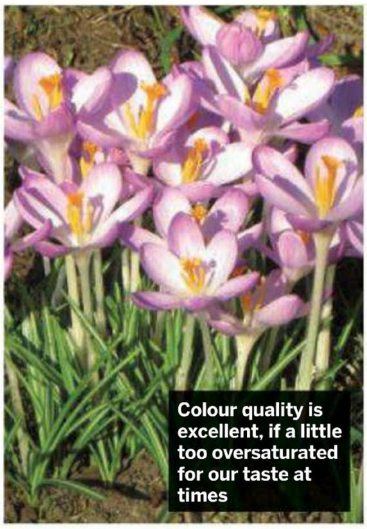
**£280**

**PROS**

Stunning design, excellent LCD screen, general image quality

**CONS**

High price premium, lacking advanced features



Colour quality is excellent, if a little too oversaturated for our taste at times

# Canon Ixus 500 HS

### With the impressive looks normally attached to the IXUS range and a 12x optical zoom, is the Canon IXUS 500 HS more than just a pretty face?

The latest high-end model in Canon's IXUS series – the IXUS 500 HS – features a 10MP CMOS sensor complete with Canon's HS system and DIGIC 5 processor. The compact also features a 12x optical zoom, covering a focal range of 28-336m, supported by an Intelligent IS system. There's also a 3in, 461k-dot PureColor II LCD screen and full HD video capture at a resolution of 1080p.

In spite of this comprehensive specification and large optical zoom, the IXUS 500 HS is noticeably slim and compact – the attempts to make it as small as possible even extend to the use of microSD cards as opposed to the standard variety. These memory cards are more commonly seen in mobile phones and other portable devices, although the emergence in a number of Samsung compacts seems to have filtered across to other manufacturers. The end result has little impact on the performance of the card or the capacity, although the minuscule physical size means those with larger hands will have a tougher time installing the card. Using a card reader is more long-winded as well, due to the need for an adapter to alter the microSD into a full-sized version.

The IXUS 500 HS features a range of shooting modes, with a Smart Auto mode on offer for those happy for the camera to make decisions on settings for them – Smart Auto selects from 58 scenes to choose the one suitable for the chosen subject. The sheer wealth of options on offer somewhat makes up for the lack of any sort of manual controls, preventing the likes of shutter speed and aperture from being altered. In spite of this there is a 2.8fps burst mode present, which can take up to 6.8fps in the High-speed Burst mode, which in turn reduces resolution to 2.5MP.

The striking design of the IXUS 500 HS is not solely aesthetic – the compact sits well in the hand and buttons are laid out in such a manner that the compact is a pleasure to use. The LCD screen, no doubt thanks to the PureColor technology, is also striking. General performance is pleasing too, with focus prompt and the metering also performing well.

Image quality is generally impressive. Sharpness is maintained through the frame, images display a good dynamic range, while colours are vibrant yet not excessively so. Noise is well controlled throughout the ISO range, though at higher settings noise reduction does result in the loss of some fine detail.

At close to £300 there's plenty of money going into the design of the IXUS as the lack of manual controls is something of a rarity at this price range. In spite of this the feature set – especially the 12x optical zoom, almost 7fps burst rate and HD video recording – makes the IXUS 500 HS an impressive prospect, but try shopping around for a sub-£250 price rather than paying full whack.

### VITAL STATISTICS

**SENSOR**
10MP, 1/2.3in CMOS
**LENS**
28-336mm f/3.4-5.6
**LCD**
3in, 461,000 dots
**FILE FORMATS**
JPEG, MOV
**ISO RANGE**
100 - 3200
**METERING SYSTEM**
Evaluative, centre-weighted, spot
**VIDEO**
1920 x 1080p, 24fps
**WHITE BALANCE**
Auto, 7 preset
**CONNECTIVITY**
USB, HDMI
**POWER**
Rechanrgeable Li-ion NB-9L
**MEMORY CARD**
microSD, SDHC, SDXC
**DIMENSIONS**
87.1 x 53.9 x 19.2mm
**WEIGHT**
155g

**VERDICT** **As is often the case with Canon's IXUS range, the 500 HS arrives with a price tag exceeding other similarly specified compacts on the market. However, the price premium is warranted – the design and finish far exceeds a lot of its peers. Image quality is also impressive and, overall, it's certainly a complete compact. When its price falls it will be even more appealing.**

**SCORE** Features 17/20 Performance 18/20 Design 19/20 Image quality 18/20 Value 17/20 **89%**

£329

## PROS

Sleek design, 15x optical zoom (24-360mm equiv), 8fps continuous shooting at full resolution, fast AF for a compact

## CONS

Image quality hasn't improved beyond the F300EXR, slow Raw write times

**In spite of the number of dials and buttons the F550 EXR isn't cluttered**

# Fujifilm FinePix F550EXR

16MP EXR CMOS sensor, 15x optical zoom and Raw capture make the Fujifilm FinePix F550EXR a superb backup for the DSLR owner

The F550EXR is a sleek-looking piece of kit and an update to the F300EXR, from which it maintains a virtually identical design. The big change is the sensor.

Out goes the really rather good 12MP Super CCD EXR chip, now replaced by a 16MP EXR CMOS sensor. Although the same physical size, at 1/2in, Fuji has squeezed another four million pixels onto the surface area, while the EXR technology that set previous models apart from the competition has been adapted to work with a CMOS pixel array. The philosophy remains the same, with images optimised for maximum resolution, low-light performance or dynamic range.

The optical zoom range is impressive, at 24-360mm. The wideangle coverage is excellent for cramming loads into the frame, while there's also a CMOS Shift mechanism to reduce camera shake. The ISO range runs from 100-3200, but can be expanded to 6400 (8MP) and 12,800 (4MP).

Along with a dedicated EXR mode, there's full manual control and a host of automated modes including Motion Panorama and Pro Focus. The F550EXR shoots in Raw as well as JPEG, and there's a built-in GPS (Global Positioning Satellite) unit to tag the location where images were shot – either by latitude and longitude or Place of Interest.

The autofocus system works well – AF acquisition is fast and precise using the centre point, and the AF tracking mode does a solid job.

If you pair the focus tracking with the Best Frame Capture – which captures eight images at just shy of 8fps – you should be able to easily grab an action shot or two. Raw shooting does mean five-second write times, however.

Whether the change from the Super CCD chip to the 16MP CMOS sensor has been for the better is up for debate. While the performance has improved, the images don't seem better than those of the F300EXR. Detail is good, but the performance of the EXR options is dramatic. Noise control and dynamic range are improved over the standard setting, but not as impressive as we've come to expect from an EXR chip.

You'll struggle to find a similarly priced camera with a spec that beats the F550EXR – you do get a lot of camera for the cash.

## VITAL STATISTICS

**SENSOR**
16MP EXR CMOS sensor
**LENS**
24-360mm focal range
**VIDEO**
1080p HD video capture
**STABILISATION**
CMOS shift image stabilisation
**RAW SHOOTING**
Yes
**LCD**
3in, 460k-dot TFT LCD
**BURST MODE**
8fps at full resolution
**MODES**
P, A, S, M, Advance, Auto, Scene
**ISO**
100 - 3200
**MEMORY**
SD/SDHC/SDHC
**DIMENSIONS**
103.5 x 62.5 x 33mm
**WEIGHT**
215g

**VERDICT** **The Fujifilm FinePix F550EXR is a solid, all-round compact camera that's very well priced for the specification you get – 15x zoom lens, fast AF, and an 8fps burst mode for starters. Having said that, while images are good and in line with the competition, they don't quite deliver the stand-out results that we were hoping for.**

**SCORE** Features 18/20 Performance 18/20 Design 18/20 Image quality 17/20 Value 18/20 **89%**

## Sony TX5 £329

With its smooth body and sliding lens cover, Sony's waterproof, freezeproof, dustproof and shockproof TX5 does well not to compromise its aesthetic qualities. Sony's 10.2MP Exmor R CMOS sensor takes care of image and video capture, while a 25-100mm zoom lens sits in front of it.

Sweep Panorama is also included, but the star of the show is the 3in touchscreen, even if the 230k-dot resolution is quite low for a model costing so much.

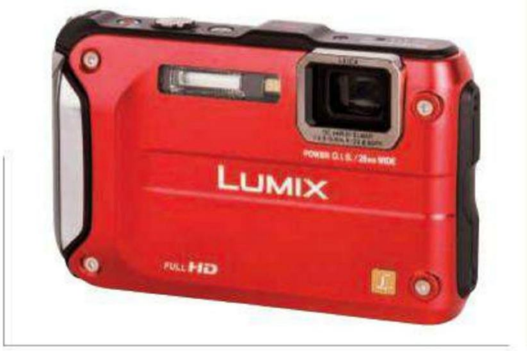
Start-up is prompt, and the nine-point AF system excels at quickly bringing subjects into focus, while the touchscreen is pleasantly responsive. The basics are very much there with image quality too: excellent detail, a superb metering system, low noise, and good colour. It's a shame it's all let down by an inconsistent Auto White Balance system, and plenty of softening towards corners and edges of images, and at around £300 it's also a little dear.

| | |
|---|---|
| **PROS** | Great design, image quality, responsive LCD |
| **CONS** | Soft images, low-res LCD, AWB system, expensive |

**88%**

**LENS**
25-100mm, f/3.5-4.6
**SENSOR**
10.2MP
**ISO**
125 - 3200
**LCD**
3in, 230k-dot
**SIZE**
94 x 56.9 x 17.7mm
**WEIGHT**
128g
**MEMORY**
Memory Stick, SD, SDHC, SDXC

## Panasonic FT3 £349



**LENS**
28-128mm
**SENSOR**
12.1MP, 1/2.3in CCD
**ISO**
100 - 6400
**LCD**
2.7in, 230k-dot
**SIZE**
103.5 x 64 x 26.5mm
**WEIGHT**
175g
**POWER**
Li-ion
**MEMORY**
SD/ SDHC/SDXC

| | |
|---|---|
| **PROS** | Bursting specification, sturdy design, lifeproof |
| **CONS** | High price tag, low-res LCD screen, no manual modes |

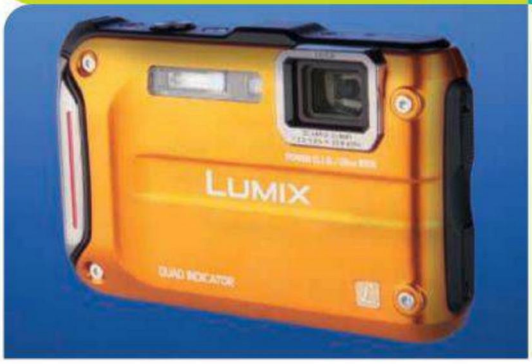
If you're after a compact camera that's perfect for an outdoor lifestyle, Panasonic's FT3 could be for you. It's waterproof to 12 metres, shockproof from a two-metre drop and freezeproof to -10°C. On a conventional level, the FT3 has a 12.1MP sensor, 2.7in 230k-dot LCD, optical image stabilisation, and features Full HD video capture for the first time in the series.

In keeping with its rugged nature, the body has a brushed metal finish and a host of over-sized and well-spaced buttons make it easy to use.

The camera is snappy in use, while bright and simple menus also aid settings changes in difficult conditions. Image quality is reasonable, with colour reproduction good, though overall sharpness drops off towards the edge of the frame. Though the price of the FT3 is fairly high, the spec merits it. Aside of slight image quality issues, it's one of the best tough compacts available for an all-action lifestyle.

**89%**

## Panasonic FT4 £349



**SENSOR**
12MP CCD
**LENS**
28-128mm focal range
**LCD**
2.7in, 230k dots
**SIZE**
103.5 x 64 x 26.5mm
**WEIGHT**
175g
**POWER**
Rechargeable Lithium
**MEMORY**
SD, SDHC, SDXC

| | |
|---|---|
| **PROS** | Rugged credentials, Quad indicator performance |
| **CONS** | General lack of updates on previous model, poor LCD |

The Panasonic FT4 can withstand water to a depth of 12m, will survive a drop from 2m, keep working at -10°C and is dustproof.

There's also a 'Quad Indicator', combining GPS tagging, compass, altimeter and barometer, from which data can be displayed on the model's LCD screen. The FT4 has 12.1MP, a 4.6x Leica-designed optical zoom lens and 1080p HD movie recording.

Design-wise, the FT4 is not the lightest of compacts, although this weight definitely gives it a solid and reliable feel that'll stand up to a reasonable battering.

Images feature a great balance between shadows and highlights, with exposures generally even. The camera's dynamic range though, struggles a tad in managing highlight detail, and there's a tendency to blow highlights out. If you're looking for a rugged compact that offers excellent images whatever you may throw at it, there are few better on the market.

**88%**

## Panasonic FX700 £349

The Panasonic FX700 is a 14MP compact with full manual controls, a 3in touchscreen and the ability to shoot HD movies.

Rather than rely on buttons most of the FX700 controls utilise the hands-on LCD touchscreen. When using the screen to focus and take images it's reactive, although the small icons can be missed.

In terms of image quality the metering marginally favours the darker tones, although not to the extent of losing detail in the highlights, and both warmth and vibrancy are of an acceptable level as well. In lower light conditions image noise is visible from around the ISO 800 mark, while the higher settings aren't particularly worth using.

As far as the RRP is concerned £349 is around average for the feature set, but with the likes of the Canon S95 occupying the surrounding area it will be difficult to place the FX700 at top spot.

| | |
|---|---|
| **PROS** | Size, classy finish, image quality |
| **CONS** | Touchscreen can be sluggish |

**SENSOR**
14MP, 1/2.33in
**LENS**
24-120mm, f/2.2-6.3
**LCD**
3inch touchscreen
**ISO RANGE**
100 - 6400
**MEMORY CARD**
SD/SDHC
**DIMENSIONS**
103.5 x 55.8 x 24.5mm
**WEIGHT**
176g

**87%**

## Panasonic FZ45 £349

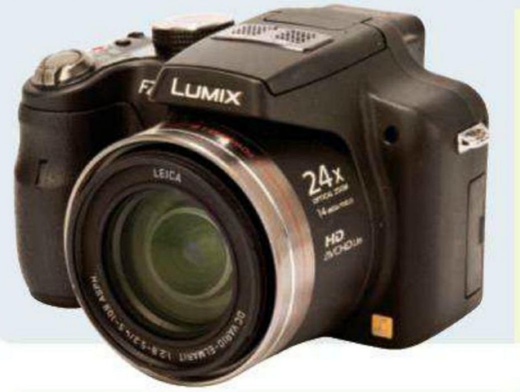
Panasonic's FZ45 superzoom combines a 14.1MP sensor with a 25-600mm optic that boasts a Power OIS system. Both Raw and JPEG images are captured, while HD movie recording is possible to a maximum 1280 x 720p. Helpfully, a Creative Movie mode allows exposure control during recording. There's a 3in LCD, and the supplied battery is claimed to last for up to 580 shots. The design sports minor alterations from its predecessor, but everything is still logically arranged and clearly labelled.

There's a slight whirring from the lens as it zooms, but focusing is next to silent and quite quick.

Exposures are balanced, with just a slight bias towards overexposure while the level of detail is very good, and even better when using Raw files. Sharpness extends well to edges, while the image stabilisation provides an advantage of about 2-3EV. An overall solid performance.

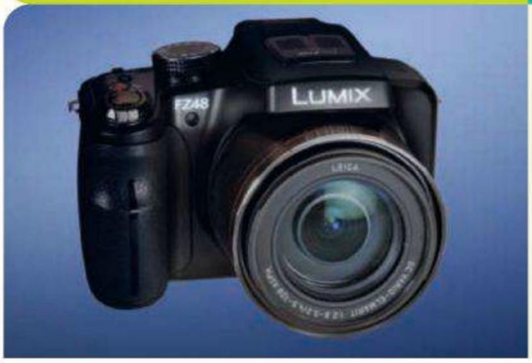
| | |
|---|---|
| **PROS** | Image quality, lots of control over movie recording |
| **CONS** | Small buttons |

**90%**



**LENS**
25-600mm f/2.8-5.2
**SENSOR**
1/2.33-in CCD, 14.1MP
**ISO**
80 - 1600
**LCD**
3in TFT, 230k dots
**SIZE**
120.3 x 79.8 x 91.9mm
**WEIGHT**
498g
**MEMORY**
SD/SDHC/SDXC

## Panasonic FZ48 £349



**ZOOM LENS**
25-600mm optical zoom
**SENSOR**
12.1MP 1/2.33in CCD
**MOVIE MODE**
Full HD (1080i) movie
**STABILISATION**
Power OIS image
**LCD**
3in, 460k-dot LCD screen
**DIMENSIONS**
120.3 x 79.8 x 91.9 mm
**WEIGHT**
498g

| | |
|---|---|
| **PROS** | Fast AF, good quality LCD, decent movie mode |
| **CONS** | No Raw shooting, over-processed images |

Panasonic's recent superzoom, the FZ48, has a 24x optical zoom lens (25mm through to 600mm), POWER OIS image stabilisation and a 12.1MP CCD sensor.

As well as an intelligent Auto (iA) mode, there are full manual controls, a 3D mode and a variety of scene options, including picture-enhancing modes under the 'Photo Style' guise.

The FZ48's 3in LCD screen has a 460k-dot resolution, while a 0.2in, 201k-dot electronic viewfinder (EVF) also features.

The design is well laid out, and the build quality feels sturdy, with the camera's pronounced hand grip having a rubberised finish for extra hold.

The Lumix FZ48's fast autofocus is its premier feature, capable of attaining focus quickly; and the FZ48's final image quality, although well exposed and supported by an excellent image-stabilisation system, isn't quite able to match up to the likes of the Fuji HS20.

**89%**

## Panasonic TZ20 £349

**SENSOR**
14.1MP, 1/2.33in-sized
**LENS**
16x zoom (24-384mm)
**LCD**
3in, 460k-dot touchscreen
**FILE FORMATS**
JPEG, M-JPEG, AVCHD, MPO
**ISO RANGE**
100-1600
**MEMORY CARD**
SD/SDHC/SDXC
**DIMENSIONS**
104.9 x 57.6 x 33.4mm
**WEIGHT**
219g

| | |
|---|---|
| **PROS** | Image sharpness, rapid focusing, stabilisation |
| **CONS** | Manual control access, high ISO image quality |

The Panasonic Lumix TZ20 has a 14.1MP MOS sensor, 16x optical zoom lens (24-384mm equivalent) and 1080i HD movie mode.

The TZ20's body is relatively chunky in terms of its width – but this is understandable given the scale of that long-zoom lens. On the camera's rear is a 3in, 460k-dot LCD screen that now has a touch panel for hands-on control. The TZ20 also offers full manual controls and two My Scene modes to set up more 'personalised' presets. The TZ20's autofocus is rapid and accurate throughout the impressive zoom range regardless of which focusing method is being used. At the wide 24mm end of the magnification results were superb, returning some pin-sharp images.

Trying to ignore the rather tall asking price for one moment, it's clear to see that the Panasonic TZ20 rolls together plenty of desirable features and thanks to this the Panasonic Lumix DMC-TZ20 is certainly a winner in our books.

**89%**

## Sony DSC-HX9V £349

Sony's Cyber-shot DSC-HX9V offers a 16.2MP backlit Exmor R CMOS sensor, 16x zoom lens (24-384mm), full manual controls and a burst mode capable of taking 10 frames per second.

Unsurprisingly for a camera offering such a long optical zoom the HX9 is rather chunky, and although the rear of the camera houses a 3in LCD the buttons aren't too cramped or small.

The LCD screen is impressively detailed too, using all of the 921k dots to superb effect and giving an accurate and sharp preview.

The DSC-HX9 manages to keep any image noise out of the view of the naked eye, but higher ISO settings suffer from some discoloration. Dynamic range is highly impressive, as even an outdoor landscape scene with plenty of highlights did little to upset the overall balance, with tonal range good enough to keep the problem shades in check.

**89%**

| | |
|---|---|
| **PROS** | Well built, plenty of impressive features |
| **CONS** | Pricey, unpredictable white balance |

**SENSOR**
16.2MP
**MOVIE MODE**
1080p HD movies
**LENS**
16x optical zoom lens
**ISO**
100-3200
**MEMORY**
MS, SD/SDHC/SDXC
**DIMENSIONS**
104.8 x 59.0 x 33.9mm
**WEIGHT**
245g

## Fujifilm HS30EXR £359

Fujifilm's HS30EXR superzoom has a 16MP EXR-CMOS sensor, 0.26in, 921k-dot electronic viewfinder and rechargeable li-ion battery. A superzoom wouldn't be so called if it didn't have a significant zoom and the 24-720mm lens has that more than covered. But not only can this optic make far-away subjects fill the frame, it's also go a 1cm Macro mode.

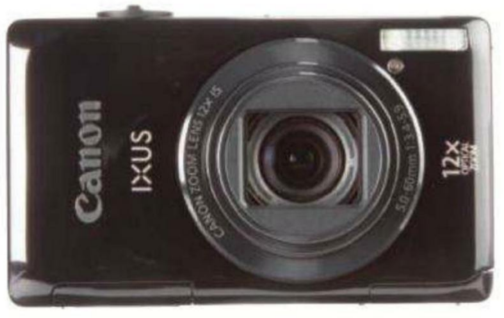
The HS30EXR takes the superzoom formula and tweaks it into better shape than its predecessor. But for all its good points, there are a couple of things that we'd still like to see: more accurate exposure, a better sensor for mid-high ISOs, and a faster autofocus system. Image quality is reasonable, but won't compare to a DSLR with long lens. Of course, such kit would cost far more, and this is where the HS30 comes into its own: it's a superb balance of price to features. A notable improvement over its predecessor.

**89%**

| | |
|---|---|
| **PROS** | 24-720mm lens, improved EVF |
| **CONS** | Image quality not staggering, |

**SENSOR**
16MP 1/2in EXR-CMOS sensor
**LENS**
24-720mm zoom
**LCD**
3in, 460k-dot, tilt-angle LCD screen
**VIEW FINDER**
0.26in, 921k-dot electronic viewfinder
**ISO RANGE**
100-3200
**PRESETS & CONTROLS**
Full manual controls

## Canon Ixus 1100 HS £369



**SENSOR**
12.1MP
**LENS**
28-336mm f/3.4 - 5.9
**LCD**
3.2in 16:9 ascpect ratio touchscreen, 461k-dot
**FILE FORMATS**
JPEG
**ISO RANGE**
100 - 3200
**MEMORY CARD**
SD, SDHC, SDXC
**DIMENSIONS**
99 x 58.9 x 21.9mm
**WEIGHT** 206g

| | |
|---|---|
| **PROS** | Full specification, 1080p HD video |
| **CONS** | High price-tag, unresponsive touchscreen |

The IXUS 1100 HS features a 12.1MP back-illuminated CMOS sensor, complete with Canon's HS system, aimed at providing premium image quality in low-light conditions. Despite featuring a relatively slim body, the IXUS 1100 HS still features a 12x optical zoom, covering 28-336mm in equivalent terms, which itself is supported by Intelligent IS image stabilisation. The rear houses a 3.2in, 461k-dot touchscreen LCD with a 16:9 aspect ratio, something that will be of use when using the 1080p HD video mode. However such a ratio results in lost space for conventional stills.

The touchscreen is adequate although will seem slow and a touch unresponsive for touchscreen smartphone users. Image quality is to the usual excellent standard expected from an IXUS, with a wide dynamic range and top sharpness displayed. Image noise control is also impressive, with the HS system making ISO settings up to ISO 800 perfectly usable.

**86%**

## Canon PowerShot G12 £399

**SENSOR**
1/1.7in CCD, 10MP total
**LENS**
5x zoom (28-140mm)
**LCD**
2.8in, 421k-dot vari-angle
**FILE FORMATS**
JPEG, RAW, JPEG + RAW
**MEMORY CARD**
SD, SDHC, SDXC, MMC
**ISO RANGE**
80 - 3200
**DIMENSIONS**
112.1 x 76.2 x 48.3mm
**WEIGHT**
401g

| | |
|---|---|
| **PROS** | Fantastic design, usability and image quality |
| **CONS** | Similar to G11, viewfinder's 77% field of view |

The Canon PowerShot G12's larger than normal 1/1.7in CCD sensor outputs a resolution of 10MP, and is exactly the same as that of its predecessor. The compact features a 5x optical zoom lens, covering a range of 28-140mm in conventional 35mm terms, and 720p HD movie capture.

The G12's top-plate houses a trio of control wheels, and on the rear of the camera sits the vari-angle LCD screen. The front of the camera houses the adaptor ring that allows for a range of extensions to be fitted.

With the similarities to the previous model it would be easy to be disappointed with the lack of new features, but the G11 was a fantastic camera and the G12 has added 720p HD video and tweaked the design by adding a front thumbwheel.

The fact that it's still so good is testament to how well evolved the G-series is, though we'd like to see some bigger changes with the next model.

**92%**

## Nikon Coolpix P500 £399

The Nikon Coolpix P500 offers a 36x, or 22.5-810mm in 35mm terms, optical zoom lens, a vari-angle LCD screen, HD movie mode and full manual controls.

For framing and reviewing images a 230k-dot viewfinder and 920k-dot 3in vari-angle LCD screen are present although the balance and handling is somewhat variable as a result. At the top end of the zoom the camera is unsurprisingly front heavy, but thanks to the angled screen it can be held in a more stable position.

In spite of having nine AF areas the response time is often annoyingly slow, but with a decent amount of illumination the images were sharp, with the limited depth of field producing some lovely effects. The likes of the vari-angle LCD and full manual controls are extremely useful, and the build quality is superb, making the P500 one of the better bridge cameras out there.

**88%**

| | |
|---|---|
| **PROS** | Superb handling, excellent build quality |
| **CONS** | Some barrel distortion, limited tonal range |

**SENSOR**
12.1MP sensor
**SCREEN**
3in tilt-angle screen
**LENS**
36x optical zoom lens
**MEMORY**
SD/SDHC/SDXC
**ISO RANGE**
160 - 3200
**DIMENSIONS**
83.7 x 115.5 x 102.5mm
**WEIGHT**
494g

**COMPACT** **PANASONIC LUMIX TZ30** **£349**

**PROS**

Big zoom in a small body, excellent stabilisation system

**CONS**

Still no Raw shooting, battery life could be better

Plenty of detail is visible in this long-zoom shot

# Panasonic Lumix TZ30

## Small body, big zoom: is Panasonic's TZ30 the best travel zoom on the market?

The Panasonic Lumix TZ30 updates the hugely successful Lumix TZ20 model, but rather than resting on the same features, the latest release squeezes in not only a brand new 14.1MP sensor but also a 20x optical zoom lens.

### Features

Without doubt it's the TZ30's 20x optical zoom lens that will hold broad appeal, ranging from a wideangle 24mm and able to extend to a significant 480mm.

Next up is the brand new 14.1MP MOS sensor which has an extra 2MP of resolution compared to the previous TZ20 model.

Elsewhere the TZ30 packs in plenty of features to shout about, including the same 'light-speed' autofocus system as in the Lumix GX1. A 10 frames per second burst mode, 1080p HD movie using the latest AVCHD encoding, touchscreen control, Global Positioning Satellite technology and a new 3D mode also add to the impressive features list.

### Design

Considering the TZ30's sizeable zoom the camera is very pocket-friendly. A premium finish includes all-metal buttons and a mode dial which gives the camera a well-made, high end feel.

Controlling the camera can be approached by using dials and buttons or by the touchscreen.

### VITAL STATISTICS

**WEIGHT**
206g including battery & card
**DIMENSIONS**
104.9 x 58.9 x 28.2 mm
**FILE FORMATS**
JPEG (MPO for 3D capture)
**SHUTTER SPEEDS**
15-1/2000th sec
**LENS**
20x optical zoom (24-480mm)
**ISO**
100 - 3200
**POWER**
Li-ion battery
**FLASH MODES**
Auto, Red-eye, On, Slow Sync, Off
**CONNECTIVITY**
miniHDMI, AV Output, USB2.0
**EXPOSURE MODES**
P, A, S, M, C1, C2, 3D, Scene, Creative Control, intelligent Auto
**METERING SYSTEM**
Intelligent / Center / Spot
**SENSOR**
14.1MP MOS sensor
**SCREEN**
3in, 460k-dot, touchscreen LCD
**MEMORY CARD**
SD (HC/XC)
**WHITE BALANCE**
Auto, 4 preset, Manual
**DRIVE MODE**
10 frames/sec (max 10 images)
**FOCUSING MODES**
Normal, AF Macro, Zoom Macro / Quick AF On/Off(On in Intelligent Auto), Continuous AF(only for motion picture) / AF Tracking

### Performance

The new 10fps burst mode is another quality feature, though it's not possible to autofocus during shooting at this speed. Instead a 5fps (max) mode will allow time for focus and exposure adjustment between frames being fired.

At mid-long zoom ranges the TZ30's Power O.I.S. (optical stabilisation) kicks in and is a very impressive system indeed. Shots are noticeably steadied on the rear screen, even at the 480mm setting, which makes framing and capturing the right shot that much easier.

### Image Quality

The TZ30's exposures are balanced, though the presence of bright highlight areas can overexpose in some scenes. Shots are usable throughout the ISO range – even ISO 1600 shots taken in a dark club without flash held enough detail thanks to noise reduction processing.

Sharpness is sufficient for a camera of this type, with enough detail revealed in both close-up and longer zoom shots. However, the sensor's resolution and image processing can counteract the finer details in textures or fine areas and the corner sharpness doesn't quite match the centre sharpness. There's nothing special to shout about here: the TZ30's images are good, but on a par with most other 14MP compacts.

**VERDICT** **If you're after a pocketable, powerful and easy to use compact camera then the TZ30 is up there with the very best. Although image quality isn't going to see off a larger-sensor competitor, and there's still no Raw capture, this consumer-targeted compact has plenty of positives to outweigh these small downsides.**

**SCORE** Features 19/20 Performance 18/20 Design 18/20 Image quality 17/20 Value 18/20 **90%**

## Nikon S1200pj £399

Nikon's unique projector-sporting camera is much changed from its predecessor. The projector itself features a new three-light system that boosts output from 14-lumens to 20-lumens, offering projection of up to 60 inches. The camera side of things remains the same as before, with a 14MP sensor and 5x optical zoom as well as HD video capture.

The S1200pj features a redesigned, curvier body and in use the camera performs well given its features and technology. Metering, white balance and colour rendition all perform well, while Easy Auto and Macro shooting modes also perform capably. Image quality, however, is a bit of a mixed bag. There's a lot of detail smoothing at higher ISO settings, with a lack of shadow detail and lens flare also a problem. Priced at almost £400 you're paying a premium for the addition of a projector, although the projector is a welcome feature.

**82%**

**PROS** Plenty of features, fun, improved projector

**CONS** Average image quality, price

**SENSOR**
14.1MP, 1/2.3in CCD
**LENS**
28–140mm f/3.9-5.8
**LCD**
3in TFT
**ISO RANGE**
80 – 1600
**MEMORY CARD**
SD, SDHC, SDXC
**DIMENSIONS**
100.7 x 63.4 x 22.6mm
**WEIGHT**
186g

## Olympus XZ-1 £400

**SENSOR**
10MP 1/1.63in CCD
**LENS**
28-112mm (equiv)
f/1.8-2.5
**LCD**
3in OLED (610k-dot)
**ISO RANGE**
100 - 6400
**MEMORY CARD**
SD, SDHC, SDXC
**DIMENSIONS**
110.6 x 64.8 x 42.3mm
**WEIGHT**
275g

**PROS** Compact size, lens, front input dial, image quality

**CONS** High ISO quality, video, mode dial easily knocked

The XZ-1 has one of the largest sensors that can be fitted into a zoom compact although the pixel count is a relatively low 10MP. The 28-112mm equivalent iZuiko lens boasts an aperture of f/1.8 at the wideangle and f/2.5 at the telephoto end of the range.

The XZ-1 features a full range of manual modes and a lens ring that can be rotated to adjust a variety of settings. The Olympus XZ-1 comes in matte black or gloss white, is small enough to fit into a blazer pocket, and light enough not to be a burden to carry. It's one of the smallest cameras of its type, the lens is superb and image quality at the lower ISOs is excellent. Furthermore, it's great fun to use, and the ability to add an EVF or use a flashgun adds to the appeal.

Only a couple of niggles thwart its bid for perfection, most notably its high ISO performance and the so-so movie quality. Otherwise Olympus has returned to the quality compact sector with all guns blazing.

**90%**

## Canon S100 £439

**SENSOR**
12.1MP CMOS sensor
**LENS**
24-120mm optical zoom
**LCD**
3in, 921k-dot
**ISO**
80-6400
**BURST SPEED**
9.6fps High Speed Burst;
2.3fps other
**WEIGHT**
198g approx
**DIMENSIONS**
98.9 x 59.8 x 26.7 mm

**PROS** Front control ring, small size, GPS, image quality

**CONS** No hotshoe, expensive

At the S100's core is a 12.1-megapixel, 1/1.7in CMOS sensor – the size is larger than an average compact camera and this is a crucial benefit to image quality. The latest processor also speeds things up meaning the S100 can shoot at 2.3fps (up from 1.9fps compared to its predecessor) or, when set to the High-Speed Burst HQ mode, an impressive eight-frame burst can occur in little under a second (at a 9.6fps rate).

Matched up with the sensor, the S100 has a 5x optical zoom lens that ranges from a wideangle 24mm through to 120mm at the top end.

Overall the S100 has almost everything right: It provides full manual control that high-end users demand; the front lens ring design makes for quick and easy use; fuller control of the autofocus point, pictures are decent thanks to the large sensor, 1080p movie is great in use and the bags of other features such as GPS don't fail to deliver.

**90%**

## Panasonic Lumix FZ100 £450

This Panasonic superzoom packs in a 24x optical zoom, so close-up macro, wideangle landscapes, medium-length portraits and super-telephoto shots are all possible. Whether you're using the point-and-shoot Intelligent Auto mode or manual settings, there's something here for everyone. There's even Full HD 1080i movies and the full extent of the zoom can be employed while shooting.

**PROS** 25-600mm range, good stabilisation

**CONS** Price, lack of sharpness at tele end

The autofocus is decent and shots are sharp thanks to the Power O.I.S. stabilisation. Plus, if the 3in, tilt-angle LCD suffers glare from sunlight, the EVF is a great second option for shooting.

Image quality is reasonable, though there is notable image noise throughout the full ISO range. Above ISO 400 this starts to become prominent, though up to ISO 1600 is still usable.

For the same money, you could buy a DSLR or Micro System Camera, though a better superzoom would be hard to find.

**87%**

**LENS**
25-600mm
**SENSOR**
14.1MP
**ISO**
100 - 1600
**LCD**
3in, 460k-dot tilt-angle
**SIZE**
124.3 x 81.2 x 95.2mm
**WEIGHT**
540g
**MEMORY**
SD, SDHC

## Panasonic LX5 £450

The Panasonic LX5 is a 10-megapixel compact with a 1/1.63in size CCD sensor and a 3.8x optical zoom Leica lens that has a 24-90mm f/2.0-3.3 equivalent zoom.

The rear screen is a 3in, 460k-dot LCD and the design ethos is simple,with a d-pad, Q.Menu, AF/AE Lock, Display and Playback buttons. The lens itself is excellent quality and the only major qualm is that it's somewhat slow to travel between focal lengths.

Image quality is good, though not exceptional, and the lens achieves sharp, fine detail. However, for some, even this new 90mm equivalent longest focal length may still not be quite enough.

The construction, layout and menus leave little to be desired and the small, sensible size just feels right. If money's no object the LX5 should be considered a champion high-end compact in what's becoming a very competitive market.

| | |
|---|---|
| **PROS** | Build, layout, HD video, quick AF |
| **CONS** | Expensive, limited zoom range, no viewfinder |

**89%**

| | |
|---|---|
| **SENSOR** | 10.1 megapixels |
| **LENS** | 3.8x zoom (24-90mm) |
| **LCD** | 3in, 460k-dot LCD |
| **MEMORY CARD** | SD, SDHC, SDXC |
| **ISO RANGE** | 80 - 3200 |
| **DIMENSIONS** | 109.7 x 65.5 x 43.0mm |
| **WEIGHT** | 271g |

## Sigma DP2x £450

| | |
|---|---|
| **SENSOR** | 14MP Foveon X3 sensor |
| **SCREEN** | 2.5in, 230k-dot LCD |
| **FILE FORMATS** | Raw, JPEG, AVI |
| **MEMORY** | SD/SDHC/SDXC |
| **ISO RANGE** | 50 - 3200 |
| **DIMENSIONS** | 113.3 x 59.5 x 56.1mm |
| **WEIGHT** | 260g |

| | |
|---|---|
| **PROS** | Excellent images, unique retro design |
| **CONS** | Limited specs, difficult to use |

The Sigma DP2x has a 14MP Foveon X3 image sensor and a 24.2mm focal length lens (41mm equivalent) with a maximum aperture of f/2.8. There's an ISO range of 50-800 that is extendable up to 3200 in Raw capture, while a 2.5in LCD screen provides not only a small preview size but a disappointingly low 230k-dot resolution.

The DP2x is slightly larger than a typical advanced compact, although it is smaller than other cameras boasting a similarly sized sensor. The combined benefits of the fixed lens and large sensor all combine to produce excellent images. Sharpness is consistent and the DP2X displays a fantastic tonal range, as well as a good dynamic range. One criticism is that ISO performance isn't good at the top end of the scale, although up to ISO 800 is usable.

At £450, the DP2x has a pretty high price tag as outside of the large sensor and high-quality fixed lens, the spec is very much on the light side.

**81%**

## Canon SX40 HS £460

| | |
|---|---|
| **SENSOR** | 12.1MP back-illuminated 1/2.3in CMOS |
| **LENS** | 35x optical zoom; 24-840mm equiv. Intelligent IS optical image stabilisation |
| **LCD** | 2.7in, 230k-dot, vari-angle LCD |
| **MOVIE MODE** | 1080p movie capture at 24fps |
| **ISO** | 100 - 3200 |

| | |
|---|---|
| **PROS** | Good image quality, decent high ISO performance |
| **CONS** | Low-resolution 2.7in LCD, EVF, expensive |

The SX40 HS reworks last year's SX30 IS superzoom. While the design and 24-840mm (35x zoom) lens are the same as its predecessor, the SX40 HS's inner workings see an overhaul. Is the new 12.1MP backlit CMOS sensor enough muscle for the SX40 HS to see off its competitors?

Thanks to the new sensor the SX40 HS's images are a treat. Shots are vibrant with colour and succeed in balancing out all manner of scenes under various lighting conditions, and JPEGs come straight out from camera with a richness and vibrancy.

As per all superzooms there's a pay-off between having such a vast zoom range and image quality's sharpness. While the SX40 isn't going to provide DSLR-like results, its 24-840mm zoom is a darn good and far cheaper alternative.

The SX40's £460 asking price is similar to that of a budget DSLR system, and as the Fuji HS20 can be picked up for £270, the SX40 feels a tad expensive.

**88%**

## Nikon P7100 £479

Nikon had previously excelled with its four-figured P-series of Coolpix models. In the P7100 there's a new 'Low noise night mode' from ISO 400 up to 12,800. Full PASM controls remain, and are now complemented with a set of one-click Effects which enhance images in post-production. A new front command dial improves usability, and, when combined with the new second 'fn' button you rarely need to enter any menus to alter settings. The tiltable LCD copes well in difficult lighting and is accompanied by a viewfinder, though it has only 80% coverage.

Image quality is very good. In low light you can shoot up to ISO 800 without image noise becoming much of an issue.

The previous P7000 was a great advanced compact, but it fell down with its slow Raw capture speed. The P7100 cuts the waiting time right down, although it's still not the fastest on the market.

| | |
|---|---|
| **PROS** | Large tiltable LCD screen, great image quality |
| **CONS** | No revolutionary improvements, price |

**90%**

| | |
|---|---|
| **SENSOR** | 10.1MP 1/1.7in |
| **LENS** | 28-200mm f/2.8-5.6 |
| **LCD** | 3in, 921k-dot vari-angle |
| **FILE FORMATS** | Raw, JPEG, MOV |
| **ISO RANGE** | 100 - 6400 (400 - 12,800 in Low noise mode) |
| **MEMORY CARD** | SD, SDHC, SDXC |
| **DIMENSIONS** | 116 x 77 x 48mm |

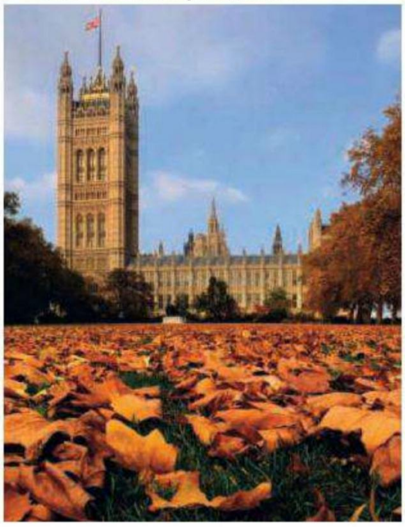
**FUJIFILM X10**

**See the Fuji X10 in action**

**£529**

| **PROS** | **CONS** |
|---|---|
| Design and overall feel, viewfinder, results from 2/3in sensor, intuitive handling | A bit too much image processing at higher ISOs |

**The Fujifilm X10 can achieve sharpness unseen in a compact camera**



# Fujifilm X10

**The X100 put Fujifilm back on the map in the eyes of the enthusiast photographer. Can the X10 continue to build on that success?**

Hoping to build on the X100's excellent performance is the X10. Sharing a similar retro design to its bigger brother, the X10 hopes to have even wider appeal, tempting people away from enthusiast compacts such as the excellent Canon PowerShot G12 and Olympus XZ-1.

## Features

The X10 features a 12MP 2/3in EXR CMOS chip which is physically larger than most other compacts. The sensor also features Fujifilm's EXR technology, and the standard ISO range runs from 100 to 3200, but ISO both 6400 and 12,800 are possible at reduced resolutions.

Instead of a fixed focal length lens, the X10 features a 4x optical zoom, ranging from 28-112mm, with a variable maximum aperture of f/2-2.8.

## Design

Looks-wise the X10 follows a rangefinder-style, retro design that's similar to the X100. Both the bottom and top plates of the X10 are constructed from magnesium, while the rest of the body is finished off in a durable synthetic leather. The rear of the camera is cleanly laid-out – there's a main-command dial, sub-command scroll wheel and a small selection of other button-based controls that allow quick access to a range of settings.

## Performance

The X10's viewfinder is bright, clear and displays seamlessly with the lens zoom. It's great for general shooting but with the 85% coverage that's offered the rear LCD screen may be the way to go when more precise composition is required.

We found the Fuji X10's AF system to be very responsive. In single-area AF, focus was fast and precise, and it's also pretty quick to toggle through the 49 AF points that cover all but the parameter of the frame using the rear scroll wheel.

### VITAL STATISTICS

**SENSOR**
12MP 2/3in EXR CMOS
**LENS**
4x optical – 28-112mm f/2-f/2.8
**FILE FORMATS**
Raw (RAF), JPEG, Raw + JPEG
**SHUTTER SPEEDS**
30-1/4000th second, plus Bulb
**ISO**
100-3200
**EXPOSURE MODES**
Auto, EXR, P, S, A, M, Scene, Adv., Movie, C1, C2
**WHITE BALANCE**
Fine, 6 preset, Custom, Color temp
**DRIVE MODE**
Single, Cont, Timer, Best Frame, AE, Film
**MOVIE MODE**
1080p (30fps) HD video
**LCD**
2.8in, 460k-dot LCD
**FOCUS MODES**
Single-shot, Continuous, Manual
**AF POINTS**
49 selectable points
**MEMORY CARD**
SD/SDHC/SDXC
**CONNECTIVITY**
USB 2.0 & HDMI mini, Flash Sync
**POWER**
Rechargeable NP-50 Li-ion battery
**WEIGHT**
350g
**DIMENSIONS**
117 x 69.6 x 56.8mm

## Image quality

The multi-segment metering coped well, delivering well-exposed shots under a range of lighting conditions. The X10's Auto White Balance delivered pleasing neutral results. As mentioned previously, the 2/3in chip is larger than that found in the competition. Performance is very good for a sensor of this size – at low ISOs, detail is very impressive. A4 prints aren't a problem, while A3 reproductions are a realistic option. The 28-112mm lens is nice and sharp throughout the range – vignetting is kept well under control, while there's only a very minor hint of barrel distortion at 28mm.

## Value

At £529 the X10 is over £100 more than the Canon G12 or Nikon P7100, meaning you're paying a premium for some very desirable extras.

**VERDICT** **Just like the X100, the X10 is a lovely premium enthusiast-focused compact from Fuji. The understated, classic design looks the part, while the build quality can't be faulted and image quality is very good. The controls fall easily to the hand and the inclusion of a usable optical viewfinder make the X10 a pleasure to shoot with.**

**SCORE** Features 18/20 Performance 19/20 Design 18/20 Image quality 18/20 Value 18/20 **91%**

## Ricoh GR Digital IV

**£499**

**SENSOR**
10MP
**LCD**
3in, 1.2m-dot LCD
**LENS**
28mm f/1.9 fixed lens
**ISO**
80 - 3200
**DIMENSIONS**
108 x 60 x 32.5mm
**WEIGHT**
219g
**MEMORY**
SD, SDHC

| | |
|---|---|
| **PROS** | Striking LCD screen, image quality, expandability |
| **CONS** | Price tag, fixed lens may not be to everyone's taste |

At the core of the GR IV sits the key to the model's imaging prowess. A 1/1.7in CCD sensor is present, offering an effective resolution of 10 megapixels. Optics are also a key concern with an advanced compact such as this, so the GRD's prime f/1.9 lens, fixed at an equivalent focal length of 28mm, will no doubt be welcome.

Another element of the camera's high-end specification is the LCD screen. While the 3in size is matched by several other compacts, the 1.23 million-dot resolution truly marks it out from the crowd and promises excellent viewing even in difficult lighting conditions.

One of the benefits of having a prime lens is the promise of a high level of optical performance. Images are sharp throughout the frame with barrel distortion remarkable by its absence. Images also exhibit a wonderful tonal range and a pleasing richness of colour straight out of the camera.

**89%**

## Sigma DP2s

**£599**

**LENS**
41mm, f/2.8
**SENSOR**
14.1MP Foveon CMOS
**ISO**
100 - 3200
**LCD**
2.5in, 230k
**DIMENSIONS**
113 x 60 x 50mm
**WEIGHT**
260g
**MEMORY**
SD, SDHC

| | |
|---|---|
| **PROS** | Superb image quality, retro design |
| **CONS** | Very expensive, poor LCD screen |

The DP2s has a 14MP Foveon sensor comprising three layers, each possessing 4.69 million pixels. The camera is also fairly unique in that it has a fixed-focal-length 41mm lens. Other features include an ISO range of between 100 and 800 in standard JPEG capture, which extends up to ISO 1600 and 3200 in Raw capture mode. However, this latest model doesn't improve on the original 2.5in, 230k-dot LCD of the DP2.

In fact, most of the specification is identical to that of its predecessor – the only difference between the pair is that the DP2s features faster AF performance as well as a new power save mode and 'redesigned rear panel' that better marks out the buttons. The DP2s's AF system is definitely improved, but little else differs. Images are just as impressive as the predecessor, though no better, a good dynamic and tonal range is displayed and very little barrel distortion or fringing is evident. Still, a specialist and pricey compact overall.

**81%**

## Leica D-Lux 4

**£630**

The D-Lux 4's pièce de résistance is its high-quality wideangle 24mm Leica DC Vario-Summicron lens, with 2.5x optical zoom extending the zoom range to 60mm. On the inside the 10.1MP 1/1.63in CCD sensor is larger than those found in most compact cameras. This means each pixel is some 45% larger, enabling the Leica to gather more available light and, in theory, produce higher quality, more detailed images with less image noise.

On the rear is a 3in, 460k-dot LCD screen for live preview and reviewing of images and, thanks to 720p HD movie capture, any videos shot with the camera.

Stylish, compact, and capable of yielding impressive results, the D-Lux 4 is a joy to use for the most part. On-camera switches and buttons mean it's simple to use, with the only major issue being the price tag, but if you want that Leica logo on your camera you'll have to take the bite from the bank.

| | |
|---|---|
| **PROS** | Lens quality, build, design, Raw option, Capture One 4 |
| **CONS** | Costly, zoom range is limited |

**87%**

**SENSOR**
10.1MP 1/1.63in CCD
**LENS**
24-60mm f/2.0-2.8
(f/8.0 smallest)
**LCD**
3in 460k-dot
**FILE FORMATS**
JPEG, Raw
**POWER**
Rechargeable lithium-ion
**DIMENSIONS**
108.7 x 59.5 x 44mm
**WEIGHT**
228g

## Fujifilm X-S1

**£699**

The Fujifilm X-S1 may look similar to other superzooms, but underneath its hood is a 2/3in sensor with a surface area more than twice that of a standard 1/2.3in sensor. The X-S1's 24-624mm (26x) zoom range is considerable, far more than you'd find in any other compact camera model.

On the rear of the camera is a 3in, 460k-dot LCD screen mounted on a tilt-angle bracket that's designed to assist with waist-level viewing.

The X-S1's colour rendition is accurate for the most part, although some scenes will 'dial out' warmer light. With a lens spanning from wideangle through to a considerable telephoto focal length, the X-S1's optical performance is impressive. At the wideangle setting there's distortion but it's acceptable, and neither edge-softness nor vignetting posed an issue. Chromatic aberrations, too, were absent at all focal lengths.

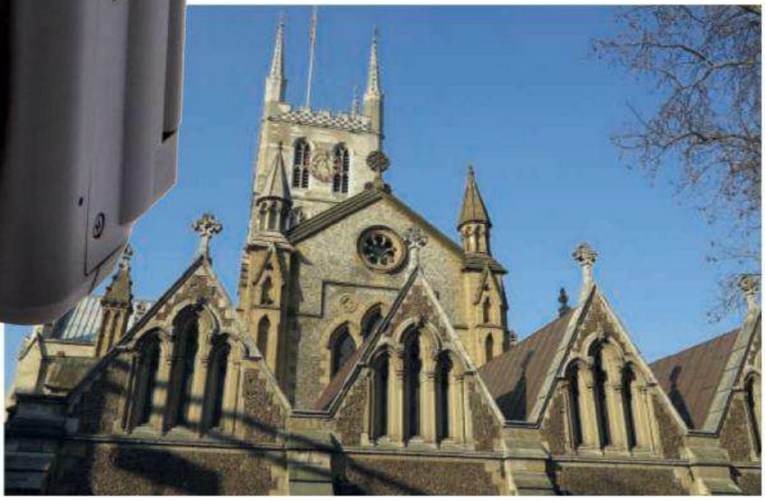
| | |
|---|---|
| **PROS** | Image quality, viewfinder, stabilisation system |
| **CONS** | Sensor issues with specular highlights |

**89%**

**SENSOR**
12-megapixel EXR CMOS
**LENS**
24-624mm (equiv.)
**FILE FORMATS**
JPEG, Raw (RAF), Raw & JPEG
**MEMORY**
SD (HC/XC)
**POWER**
NP-95 Li-ion battery
**WEIGHT**
920g
**DIMENSIONS**
135 x 107 x 149 mm

**£699**

| PROS | CONS |
|---|---|
| Superb image quality, excellent sharpness, impressive high ISO performance, Raw capture, vari-angle LCD | Poor close-focus, limited viewfinder, price, battery life |



**The large sensor gives the G1 X superb quality throughout the ISO range**

# Canon G1 X

## The compact redefined?

The Canon PowerShot G1 X is like a turbo-charged Canon PowerShot G12, albeit with a difference: the inclusion of a brand new 18.7x14mm CMOS sensor that's some 6.3 times larger than that found in the G12 model. With such a large sensor does the G1 X match up to that promise, and how does it perform overall?

### Features

The G1 X has the same pixel size and structure as the EOS 600D DSLR, and paired up with the latest DIGIC 5 processing system gives it the potential for better-than-DSLR quality. The lens has been constructed using ultra high refractive index Aspherical elements for the utmost quality, and the latest Image Stabilizer technology assists in reducing the effects of handshake.

### Design

The full-bodied nature of the G1 X means there's plenty of room for a rubberised grip, rear thumb rest and variety of controls. The top of the camera employs two dials – a large exposure compensation dial with a smaller mode dial sat on top. Each dial rotates in its own right, has a textured edge and just the right amount of give to stay in place but not to the point of being too difficult to shift. The combination of a metal body and stainless steel chassis ensures that the camera is one tough cookie that will last for years to come.

### Performance

The focusing system is capable but can hesitate and close-up shooting is a feature that the G1 X lacks as the minimum focus distance is 20cm in the Macro mode. The G1 X's 3in, vari-angle screen is great in use, which is more than can be said for the optical viewfinder: it's small and what is being framed is different from what the lens is seeing. Battery life is around the 250 shots per charge mark, which is not quite enough for a day's shooting.

### Image quality

In a variety of examples the Canon exposed the images well, and shots are rich and vibrant straight from camera. Auto White Balance does a sterling job when it comes to maintaining blacks and dark tones.

As the G1 X's inability to close-focus may be its drawback, yet when the subject is within range it's guaranteed to be super-sharp. The large sensor really comes into its own here as shots throughout the ISO range are all usable with few qualms.

### Value

There's nothing else out there short of the Fujifilm X100 that could take on the G1 X for overall image quality.

If the price drops by £100 then the G1 X will be a more attractive prospect to a wider audience. As it is, and let's face it, at its current price it's got a niche market.

### VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 14.3MP CMOS sensor |
| **LENS** | 4x zoom (28-112mm equivalent) |
| **FILE FORMATS** | JPEG, Raw (14bit), Raw & JPEG |
| **SHUTTER SPEEDS** | 60 - 1/4000 sec |
| **ISO** | 100 - 12,800 |
| **EXPOSURE MODES** | Smart, P, A, S, M, Cust., Scene |
| **METERING SYSTEM** | Evaluative, Centre, Spot |
| **DRIVE MODE** | Single, Cont., Timer, Burst |
| **MOVIE MODE** | Full HD 1080p 24 fps |
| **LCD** | 3in, 921k-dot LCD |
| **VIEWFINDER TYPE** | Optical viewfinder |
| **FIELD OF VIEW** | 77% |
| **FOCUSING MODES** | Single, Cont., Servo, Track, 1-point |
| **MEMORY CARD** | SD (HC/XC) |
| **CONNECTIVITY** | A/V, HDMI, USB |
| **POWER** | Rechargeable Li-ion |
| **WEIGHT** | 534g |
| **DIMENSIONS** | 116.7 x 80.5 x 64.7mm |

**VERDICT** **The Canon G1 X's sensor is the star of the show. The images this camera can produce are exceptional, easily of a DSLR quality – and it's not often that can be said. But considering the hefty price tag the camera's performance is underwhelming. Yet its images are so good that the G1 X is guaranteed to win over a demanding audience.**

**SCORE** Features 18/20 Performance 18/20 Design 16/20 Image quality 19/20 Value 17/20 **88%**

**COMPACT** **FUJIFILM FINEPIX X100** **£999**

**PROS**

High-end feel, superb image quality and hybrid viewfinder

**CONS**

Price, can be a touch slow in operation

Optical quality and edge to edge sharpness from the X100 was excellent

# Fujifilm FinePix X100

## A compact with a DSLR-sized sensor and hybrid viewfinder. Is this the street photographer's dream?

The Fujifilm FinePix X100 compact camera offers a host of features and controls to appeal to the professional and high-end enthusiast photographers.

### Features

The X100 features a 12.3MP DSLR-sized APS-C sensor. ISO runs from 200-6400, which can also be expanded to 100-12,800 for JPEG capture only. Fujifilm has opted for a fixed, ultra-fast f/2.0 23mm Fujinon prime lens that offers a 35mm focal length in equivalent 35mm terms. A lens-internal shutter system means that the built-in flash can be synched at any shutter speed you desire, and not just at 1/250th or 1/200th sec that's the norm on DSLRs.

### Design

One of the main appeals of the FinePix X100 is the design. The top-plate has been constructed from a strong die-cast magnesium amd it's very comfortable to hold, with the aperture ring around the lens producing positive clicks and the top-plate featuring a shutter speed control and exposure compensation dial.

### Performance

The X100's hybrid viewfinder offers an electronic viewfinder, which is one of the brightest and crispest available, and an optical viewfinder, in which the field-of-view is a touch wider.

When compared to a DSLR focusing falls slightly short, but compared to other compacts and Compact System Cameras it's pretty reasonable. AF is not instantaneous but it does lock on to most subjects with ease.

### Image quality

Tonally, images displayed a smooth graduation with plenty of detail in the mid-tones, while metering coped extremely well under a range of lighting conditions. The amount of detail resolved by the X100's 12.3MP APS-C sensor is extremely impressive, allowing you the confidence to produce prints at A3+ and above. The sharpness of the 23mm lens was also very strong, producing pin-sharp shots across the aperture range.

### Value

At £999 the X100 is by no means cheap, but compared to its closest rival, the Leica X1, it looks like excellent value. Against a similarly priced Compact System Camera it has a harder job to justify its price tag, as there's not the versatility of interchangeable lenses.

### VITAL STATISTICS

| | |
|---|---|
| **SENSOR** | 12.3MP (APS-C) CMOS |
| **OUTPUT SIZE** | 4288 x 2848 |
| **FILE FORMATS** | Raw (12-bit), JPEG, Raw & JPEG |
| **SHUTTER SPEEDS** | 30-1/4000th second, plus Bulb |
| **ISO** | 200 - 6400 |
| **EXPOSURE MODES** | P, A, S, M |
| **WHITE BALANCE** | Auto, Custom, 8 Presets |
| **DRIVE MODE** | Single, Continuous, Bracketting |
| **MOVIE MODE** | Yes - 720p at 24fps |
| **LCD** | 2.8in, 460k-dot TFT LCD |
| **VIEWFINDER TYPE** | Hybrid viewfinder |
| **FIELD OF VIEW** | 100% (EVF) & 90% (OVF) |
| **FOCUSING MODES** | Single, Continuous and Manual |
| **MEMORY CARD** | SD/SDHC/SDXC |
| **POWER** | Li-ion battery |
| **WEIGHT** | 445g |
| **DIMENSIONS** | 126.5 x 74.4 x 53.9mm |

**VERDICT** It's quite clear that Fujifilm has pulled out all the stops when it comes to this excellent compact camera. The look and feel are superb – as soon as you pick up the X100 it's obvious that you're dealing with a quality photographic tool – and when you see the results it can muster, you'll most certainly want one post-haste.

**SCORE** Features 18/20 Performance 19/20 Design 17/20 Image quality 19/20 Value 17/20 **90%**

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